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Atomization of Herbicide Simulants with Hollow Cone and Raindrop Nozzles

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FPM 85-1

ATOMIZATION OF HERBICIDE SIMULANTS WITH HOLLOW CONE AND RAINDROP NOZZLES

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PREFACE

The purpose of this wind tunnel test was to establish atomization characteristics of Esteron 99, Garlon, and Roundup. Wind tunnel test data also are used to assist in the selection of nozzle types and orientation for specific applications. Such data are used as input to mathematical models which predict spray coverage, canopy penetration, and off-target drift. Wind tunnel tests also help to provide these data to achieve specific droplet spectra and application rates for Forest Service operations.

Funding was provided by USDA Forest Service, Forest Pest Management, Washington Office. Questions and comments should be directed to the Project Officer, John W. Barry, 2810 Chiles Rd., Davis, CA 95616, (916) 758-4600.

CONTENTS

INTRODUCTION:

A series of tests were conducted to measure the drop spectra from simulated tank mixtures of Esteron 99, Garlon, and Roundup with three large hollow cone nozzles and a jet nozzle at 50 MPH air speed.

Equipment and Materials:

The nozzles were tested in a wind tunnel with a test section 8 ft. long with a 2 x 2 ft cross section. A particle measuring system laser probe (PMS OAP-2D-GA1) with a digital data acquisition system (PMS 11-C) was used to count and classify the drops into 62 size classes from 28 μm to 2062 μm.

Four nozzles were used in the tests. A D8 jet consisted of a Spraying Systems D8 disk (1/8" diameter) without a core; an RD-10 (Delavan Raindrop nozzle body) with a D8 disc and 46 core; an RD-7 (Delavan Raindrop nozzle body) with a D8 disc and 46 core; and a D8-46 nozzle (Spraying Systems D8 disc with 46 core).

The physical properties of three herbicide tank mixtures were simulated in an effort to develop relatively inert formulations that produced similar atomization characteristics and could be discharged in the wind tunnel without causing biological damage to nearby vegetation. Table 1 lists the surface tension at 24°C, the viscosity at 27°C and a shear rate of 1500 sec^{-1}, and density at 25°C, for the three active mixtures and the simulated inactive mixtures. The simulated Esteron 99 spray mixture contained 1 1/3 quarts of Mor-Act (Wilbur Ellis) surfactant, plus 2/3 quart stoddard solvent, plus 38 quarts water. The simulated Garlon spray mixture contained 4 quarts Mor-Act (Wilbur Ellis) surfactant, 2 quarts stoddard solvent, plus 34 quarts water. The simulated mixture of Roundup was supplied by Monsanto and contained a similar inactive formulation. The spray mix contained 2 quarts of formulation, plus 38 quarts water.

Test Procedures:

The drop size spectra was measured for each simulated spray mixture (Esteron 99, Garlon, Roundup) with each hollow cone nozzle (RD-10, RD-7, D8-46) directed at three angles relative to the airstream (0°, 45°, 90°) and a jet nozzle (D8) at two angles relative to the airstream (0°, 45°).

All tests were run with an airspeed of 50 mph and a nozzle pressure of 30 psi.

The PMS software used for this series of tests was version 123 with the AVG set at 100. This version counts all acceptable particles passing through the beam and provides an average weighting factor based upon the number of particles set in AVG. The slice rate was 1.5 MHz. The horizontal distance from the laser beam was adjusted for each run to obtain an optimum spray sample density. The distance ranged from 6 to 75 inches from the nozzle and the sample width ranged from 0.4 inches to 0.8 inches. The nozzle was mounted on an automatic x-y scanner which moved the nozzle through a series of parallel vertical traverses. The system was controlled with a microprocessor. The size of the sample area was adjusted to cover the entire spray pattern by selecting the desired length, width, and number of traverses. The length of traverse varied from 15 to 19.3 inches with a spacing of 1 to 2.4 inches and a total number of 6 to 12 traverses. Each test was replicated two or more times.

Results:

Table 2 contains a summary of the drop size characteristics for all the nozzle tests with the simulated herbicide formulations. The nomenclature used is as follows:

$\bar{D}_{30}$ = volume mean diameter

$D_{V.1}$ = Diameter that contains 10% of volume in drops of smaller size.

$D_{V.5}$ = Diameter that contains 50% of volume in drops of smaller size. Also defined as volume median diameter.

$D_{V.9}$ = Diameter that contains 90% of volume in drops of smaller size.

$D_{V.9} - D_{V.1}$ = Range. This represents the range in drop size that contains 80% of the spray volume.

$\frac{D_{V.9} - D_{V.1}}{D_{V.5}}$ = Relative Span. This is an index that indicates the relative uniformity of drop spectra. The number represents a normalized value of the Range ($D_{V.9} - D_{V.1}$) as a fraction of the volume median diameter. Thus, a smaller number indicates a smaller relative range and a more uniform drop spectra.

Fig 1 illustrates the Range ($D_{V.9}$ to $D_{V.1}$), and volume median diameter ($D_{V.5}$) for all the above tests.

All of the specific statistical data and five graphs to illustrate the drop spectrum for each test is compiled in Appendix A.

D8 Jet Nozzle:

Table 1 provides a summary of the drop spectra statistics for all the D8 nozzle tests. As shown, the D8 nozzle positioned at 0° (straight back) relative to a 50 mph airstream produced a very large volume median diameter, $D_{V.5}$, for each formulation; 1036, 1130 and 1208 μm for Esteron 99, Garlon, and Roundup, respectively. The above atomization also produced a very low drift potential with only 0.83 to 0.69% of the volume in drops <154 μm. The Range, ($D_{V.9} - D_{V.1}$), was very large from approximately 1100 to 1400, which indicated a very wide drop size spectra.

The tests with the D8 at 45° to the airstream showed a marked reduction in drop size with a $D_{V.5}$ of 470 to 590 μm for the different formulations. The volume of spray in drops <154 μm ranged from 5.8 to 8.9%.

Fig 1 illustrates the DV.9, DV.5 and DV.1 for the tests with the D8 jet.

D8-46 Nozzle

Table 1 provides a summary of the data for all the tests with the D8-46 nozzle. The tests revealed the angle of this nozzle (0, 45°, and 90°) relative to the airstream, and the different formulations had a small affect on the drop size spectrum at an airspeed of 50 mph. The $D_{V.5}$ ranged from 460 to 490 μm with the nozzle at 0° (back) and from 380 to 440 μm with the nozzle orientation at 90° (down).

The conditions that produced the smaller $D_{V.5}$ also increased the volume of smaller particles. The tests with the D8-46 at 0° (back) produced from 2.3 to 3.9% of the spray volume <154 μm while tests with the nozzle at 90° increased the spray volume in drops <154 μm to 6.1 to 6.7%.

RD-7 (Raindrop) Nozzle:

Table 1 provides a summary of the results of the tests with the RD-7 (Raindrop) nozzle. The $D_{V.5}$ ranged from 960 to 1080 μm with the nozzle at 0° (back) and from 780 to 920 μm with a nozzle oriented at 90° (down).

Again, the conditions that produced a smaller $D_{V.5}$ also increased the volume of small particles. The tests with this nozzle at 0° (back) produced 0.42 to 0.71% of spray volume <154 μm while tests with the nozzle at 90° increased the spray volume in drops <154 μm to 1.1 to 1.9%.

RD-10 (Raindrop) Nozzle:

Table 1 provides a summary of the results of the tests with the RD-10 nozzle. This nozzle produced the largest $D_{V.5}$ and the lowest volume of small particles. The $D_{V.5}$ ranged from 1170 to 1460 μm with the nozzle at 0° (back) and decreased to 950 to 1080 μm, with the nozzle oriented at 90° (down).

The tests with this nozzle at 0° (back) produced from 0.27 to 0.37% of the volume in drops <154 μm. This represents the lowest volume of small

drops for all tests included in this study. Tests with this nozzle at 90° produced 0.72 to 1.2% of the volume in drops <154 μm.

Fig 1 illustrates an overview of the volume median particle size ($D_{V.5}$) and the Range ($D_{V.9}$ to $D_{V.1}$) for all tests conducted in this study.

Appendix A:

This appendix contains the statistical data and graphs for each of the 36 nozzle tests with the various nozzles, angles, and formulations.

Summary:

A series of 33 tests were conducted to measure the drop spectra from simulated tank mixtures of Esteron 99, Garlon, and Roundup with 3 large hollow cone nozzles and a jet nozzle at an airspeed of 50 mph.

The nozzle type and orientation produced the major influence on drop size spectra while the formulations had a minor affect. General conclusions are:

1. The D8 nozzle at 0° (back) produced a wide drop spectrum with a large $D_{V.5}$ (1000 - 1200 μm) and a very low volume <154 μm (0.7 - 0.8%).
2. The D8 nozzle at 45° (down and back) produced a $D_{V.5}$ of 470 - 590 μm. This nozzle and angle produced the largest volume of drops <154 μm (≈ 7.%).
3. The D8-46 nozzle produced the smallest $D_{V.5}$ (380 - 490 μm) and a relatively high volume in drops <154 μm (2.3 to 6.7%).
4. The RD-7 nozzle at 0° produced a $D_{V.5}$ (960 - 1080 μm) slightly smaller than the D8 at 0° and slightly lower volume (0.4 - 0.7%) in drops <154 μm.
5. The RD-10 nozzle at 0° produced the largest $D_{V.5}$ (1170 - 1460 μm) and the lowest volume (0.27 to 0.37%) in drops <154 μm.
6. The simulated Roundup formulation produced the largest $D_{V.5}$ with the D8

jet at 0° and the RD-10 nozzle at 0°. There was no apparent general trend with the other combinations of nozzles, angles, and formulations.

TABLE 1

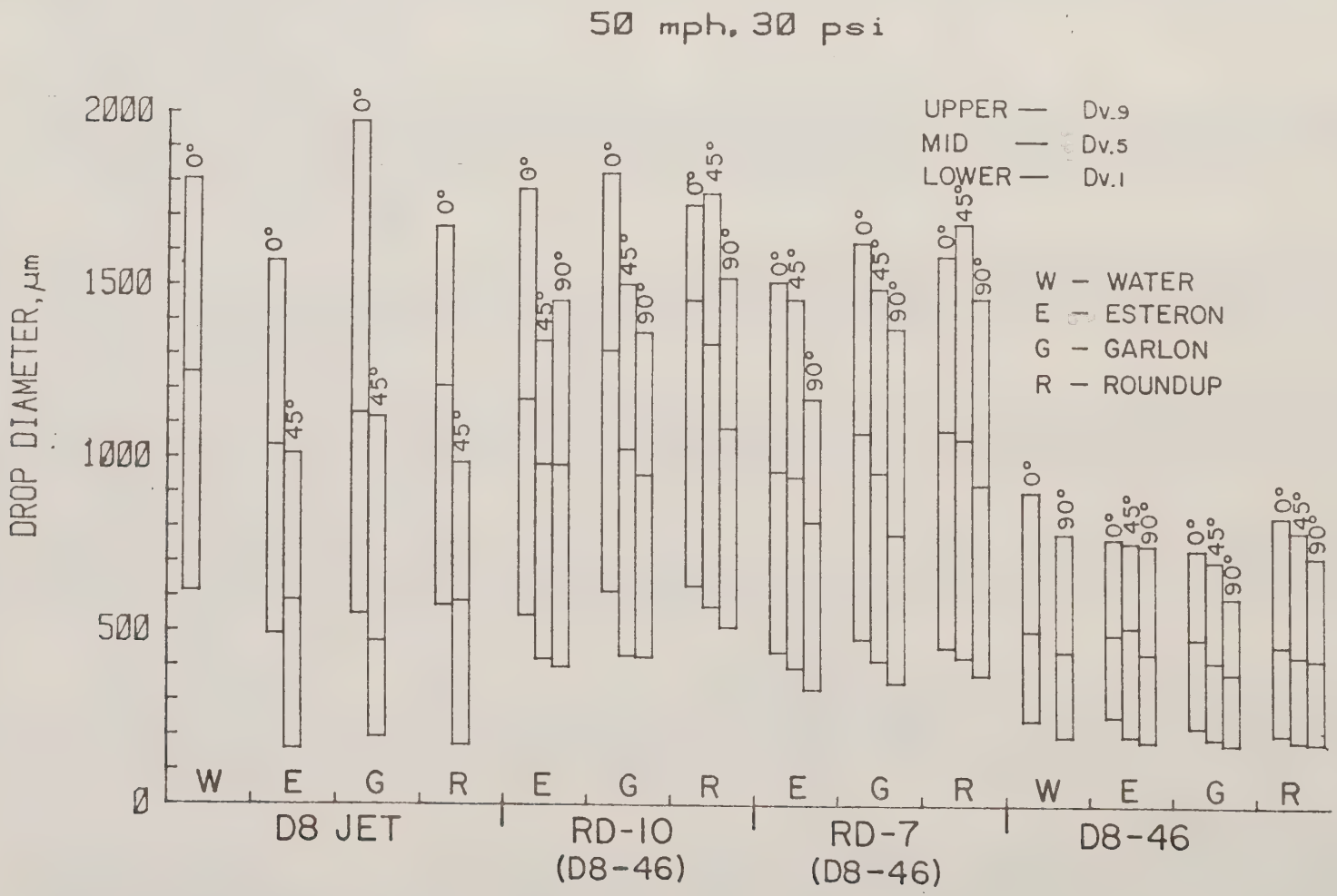
Material	Tax Qt form: Qt H_2O	Surface Tension Dynes/cm	Viscosity cps	Density gm/cm^3
Esteron 99	2:36.5	33.7	1.36	1.02
Garlon	6:32.5	26.6	1.74	0.99
Roundup	2:36.5	43.2	1.03	1.02
Simulated Esteron 99	2:36.5	28.7	1.00	1.00
Simulated Garlon	6:32.5	29.0	1.31	0.99
Simulated Roundup	2:36.5	47.1	1.00	0.98

TABLE 2. Summary of Drop Size Statistics at 50 mph and 30 psi

Nozzle Type	Blank Formulation Tested	Flow Rate gpm	Nozzle Angle Relative to Airstream	$\bar{D}_{30}$ µm	$D_{V.1}$ µm	$D_{V.5}$ µm	$D_{V.9}$ µm	Relative Span	% Volume <154 µm
D8 Jet	Esteron	1.62	0°	326	492	1036	1569	1.04	0.83
	Esteron	1.62	45°	163	161	589	1011	1.44	8.9
	Garlon	1.62	0°	345	550	1130	1971	1.26	0.69
	Garlon	1.62	45°	185	195	471	1118	1.96	5.6
	Roundup	1.62	0°	363	575	1208	1668	0.91	0.63
	Roundup	1.62	45°	170	172	587	985	1.39	7.9
	*Water	1.8	0°	356	615	1247	1805	0.95	0.83
D8-46	Esteron	1.5	0°	233	257	492	768	1.04	2.3
	Esteron	1.5	45°	190	201	513	757	1.08	5.9
	Esteron	1.5	90°	186	185	437	750	1.29	6.4
	Garlon	1.5	0°	237	228	481	738	1.06	2.7
	Garlon	1.5	45°	203	195	415	704	1.23	5.0
	Garlon	1.5	90°	183	178	382	600	1.10	6.7
	Roundup	1.5	0°	216	208	462	833	1.35	3.9
	Roundup	1.5	45°	190	188	433	791	1.39	5.7
	Roundup	1.5	90°	187	183	422	718	1.27	6.1
	*Water	1.8	0°	239	245	501	903	1.31	2.5
	*Water	1.8	90°	196	198	442	782	1.32	4.8
RD-7 (D8-46)	Esteron	1.5	0°	392	440	961	1508	1.11	0.71
	Esteron	1.5	45°	349	394	944	1458	1.13	0.98
	Esteron	1.5	90°	282	333	815	1170	1.03	1.9
	Garlon	1.5	0°	456	479	1073	1623	1.07	0.42
	Garlon	1.5	45°	393	416	958	1489	1.12	0.66
	Garlon	1.5	90°	321	352	779	1374	1.31	1.1
	Roundup	1.5	0°	389	454	1080	1584	1.05	0.65
	Roundup	1.5	45°	358	425	1054	1677	1.19	0.82
	Roundup	1.5	90°	310	374	923	1461	1.18	1.1
RD-10 (D8-46)	Esteron	1.5	0°	501	546	1169	1777	1.05	0.33
	Esteron	1.5	45°	372	419	980	1338	0.94	0.84
	Esteron	1.5	90°	342	396	978	1453	1.08	1.2
	Garlon	1.5	0°	527	614	1310	1823	0.92	0.27
	Garlon	1.5	45°	403	429	1024	1501	1.05	0.72
	Garlon	1.5	90°	378	424	950	1362	0.99	0.73
	Roundup	1.5	0°	475	630	1456	1731	0.76	0.37
	Roundup	1.5	45°	401	570	1329	1764	0.90	0.54
	Roundup	1.5	90°	358	511	1084	1519	0.93	0.72

*50 mph and 40 psi

FIGURE 1


50 mph, 30 psi
DROP DIAMETER, µm
2000
1500
1000
500
Ø
UPPER — Dv.9
MID — Dv.5
LOWER — Dv.1
W — WATER
E — ESTERON
G — GARLON
R — ROUNDUP
0°
45°
90°
W E G R E G R E G R W E G R
D8 JET
RD-10 (D8-46)
RD-7 (D8-46)
D8-46

D8 Jet,0 Degrees,50 mph,Esteron 99

DTG 80/09/06 09:52:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	5098	3.83E 06	0.13	63.71	0.12	63.71	0.12
89	6506	605195	0.12	10.07	0.11	73.78	0.23
122	4576	395977	0.24	6.59	0.22	80.38	0.45
154	3331	307080	0.42	5.11	0.38	85.49	0.83
187	1527	146477	0.38	2.44	0.35	87.93	1.18
219	847	82393	0.36	1.37	0.33	89.30	1.51
252	678	63129	0.43	1.05	0.39	90.35	1.90
284	600	43866	0.44	0.73	0.40	91.08	2.30
318	623	49616	0.71	0.83	0.65	91.91	2.96
351	599	43335	0.85	0.72	0.78	92.63	3.73
382	562	46059	1.18	0.77	1.08	93.39	4.81
414	595	39537	1.30	0.66	1.19	94.05	6.00
447	480	38344	1.60	0.64	1.46	94.69	7.47
479	424	36426	1.89	0.61	1.73	95.30	9.20
512	376	35339	2.25	0.59	2.06	95.89	11.25
545	331	19592	1.51	0.33	1.38	96.21	12.63
578	313	21665	2.00	0.36	1.83	96.57	14.47
611	246	20577	2.26	0.34	2.07	96.91	16.53
644	215	20993	2.71	0.35	2.48	97.26	19.01
677	189	15773	2.37	0.26	2.17	97.53	21.18
710	193	18103	3.15	0.30	2.89	97.83	24.07
743	150	11756	2.35	0.20	2.15	98.02	26.22
776	144	10824	2.48	0.18	2.27	98.20	28.49
809	103	7580	1.97	0.13	1.80	98.33	30.29
842	84	15797	4.64	0.26	4.25	98.59	34.54
875	78	9368	3.09	0.16	2.83	98.75	37.37
908	91	7149	2.64	0.12	2.42	98.87	39.79
941	69	6521	2.69	0.11	2.46	98.98	42.26
974	52	5111	2.34	0.09	2.15	99.06	44.40
1007	40	3672	1.86	0.06	1.71	99.12	46.11
1040	40	8473	4.74	0.14	4.34	99.26	50.45
1073	30	3038	1.87	0.05	1.71	99.31	52.17
1106	40	3931	2.66	0.07	2.43	99.38	54.60
1139	28	7054	5.21	0.12	4.77	99.50	59.37
1172	18	964	0.78	0.02	0.71	99.51	60.08
1205	17	2211	1.94	0.04	1.78	99.55	61.86
1238	14	1422	1.35	0.02	1.24	99.57	63.10
1271	17	2812	2.90	0.05	2.66	99.62	65.75
1304	15	3096	3.45	0.05	3.16	99.67	68.91
1337	15	2628	3.16	0.04	2.89	99.72	71.81
1370	10	1434	1.86	0.02	1.70	99.74	73.51
1403	12	3176	4.42	0.05	4.05	99.79	77.56
1436	7	675	1.01	0.01	0.92	99.80	78.48
1469	10	1587	2.54	0.03	2.33	99.83	80.81
1502	8	2994	5.13	0.05	4.70	99.88	85.50
1535	4	2078	3.80	0.03	3.48	99.91	88.98
1568	2	462	0.90	0.01	0.83	99.92	89.81
1601	2	1819	3.78	0.03	3.46	99.95	93.27
1634	2	580	1.28	0.01	1.18	99.96	94.45

D8 Jet,0 Degrees,50 mph,Esteron 99

DTG 80/09/06 09:52:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	1	320	0.75	0.01	0.69	99.97	95.13
1700	1	162	0.40	0.00	0.37	99.97	95.50
1733	3	1520	4.02	0.03	3.68	100.00	99.18
1766	0	0	0.00	0.00	0.00	100.00	99.18
1799	0	0	0.00	0.00	0.00	100.00	99.18
1832	1	93	0.29	0.00	0.27	100.00	99.45
1865	0	0	0.00	0.00	0.00	100.00	99.45
1898	1	173	0.60	0.00	0.55	100.00	100.00
1931	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		6.01E 06	109.21				

TOTAL RAW PARTICLES.... 29418/35817-- 82.13%

NUMBER MEAN DIAMETER... 110.35 MICROMETERS S.D.... 177.30

VOLUME MEAN DIAMETER... 326.36 MICROMETERS S.D.... 617.07

SAUTER MEAN DIAMETER... 797.07 MICROMETERS

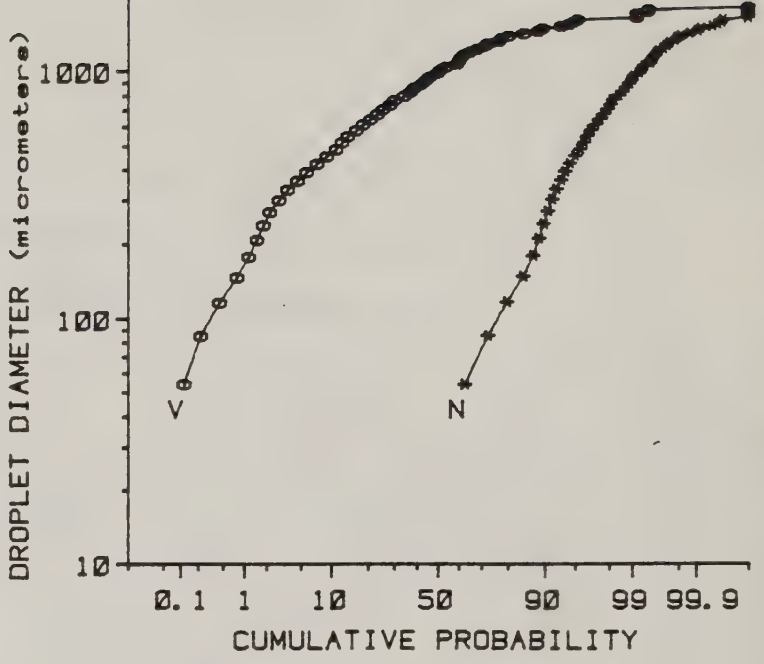
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 492.24 MICROMETERS

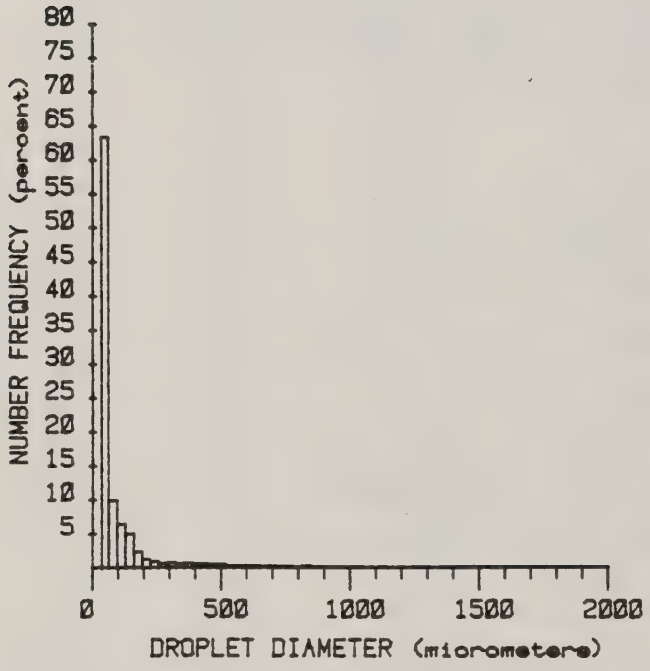
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$...1036.06 MICROMETERS R.S.... 1.04

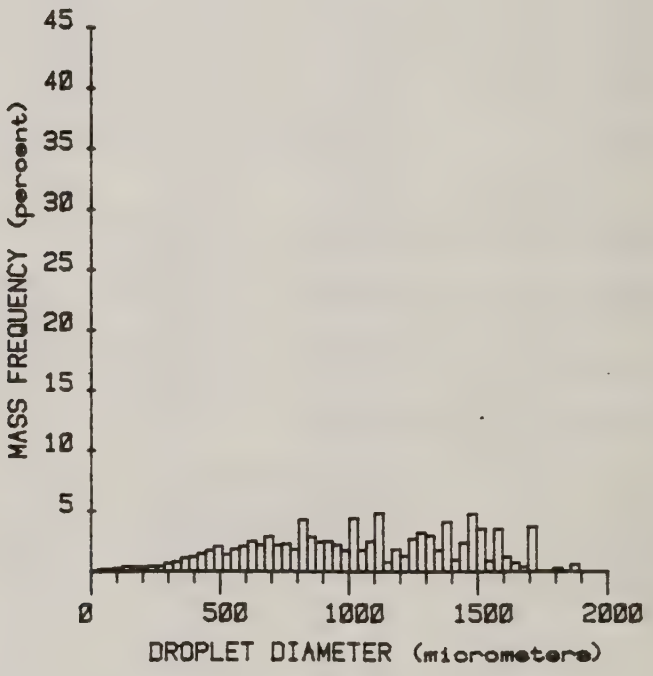
$D_{N0.9}$... 241.47 MICROMETERS $D_{V0.9}$...1569.32 MICROMETERS

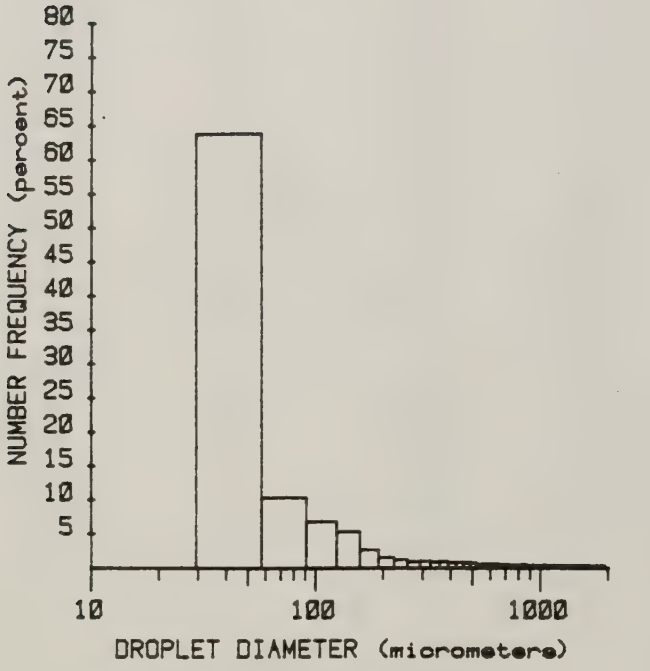
Nozzle Type..... *D8 JET*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

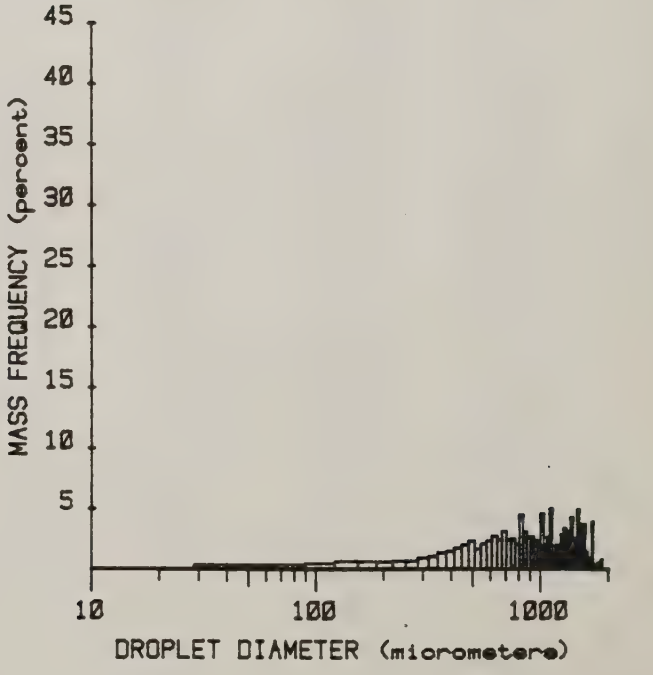
Distance to Probe... *191 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *80/09/06*
Time..... *09:52:00*
File Number..... *11.0.71*











D8 Jet,45 Degrees,50 mph,Esteron 99

DTG 80/09/01 04:08:00

CFM=2.0--1.5 Hz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	977	2.42E 06	0.08	55.72	0.81	55.72	0.81
89	2601	741286	0.15	17.10	1.51	72.82	2.32
122	2871	352562	0.21	8.13	2.19	80.95	4.52
154	2359	314771	0.43	7.26	4.41	88.21	8.93
187	1244	207847	0.54	4.79	5.52	93.01	14.45
219	511	101669	0.44	2.35	4.55	95.35	19.00
252	289	69653	0.47	1.61	4.86	96.96	23.86
284	153	40639	0.41	0.94	4.18	97.90	28.05
316	78	23357	0.34	0.54	3.44	98.43	31.49
351	37	13447	0.26	0.31	2.70	98.74	34.18
382	36	12287	0.31	0.28	3.21	99.03	37.40
414	16	7492	0.25	0.17	2.53	99.20	39.93
447	10	2732	0.11	0.06	1.17	99.26	41.09
479	14	5233	0.27	0.12	2.78	99.38	43.87
512	7	1903	0.12	0.04	1.24	99.43	45.11
545	3	2434	0.19	0.06	1.96	99.49	47.07
578	6	1901	0.18	0.04	1.80	99.53	48.87
611	6	2986	0.33	0.07	3.35	99.60	52.23
644	9	2646	0.34	0.06	3.50	99.66	55.72
677	3	1118	0.17	0.03	1.72	99.68	57.44
710	6	1203	0.21	0.03	2.15	99.71	59.59
743	8	2958	0.59	0.07	6.07	99.78	65.65
776	5	1742	0.40	0.04	4.08	99.82	69.74
809	5	3290	0.85	0.08	8.76	99.90	78.50
842	1	50	0.01	0.00	0.15	99.90	78.65
875	3	894	0.30	0.02	3.03	99.92	81.67
908	1	606	0.22	0.01	2.30	99.93	83.97
941	4	1337	0.55	0.03	5.65	99.96	89.62
974	0	0	0.00	0.00	0.00	99.96	89.62
1007	0	0	0.00	0.00	0.00	99.96	89.62
1040	1	477	0.27	0.01	2.74	99.97	92.36
1073	1	579	0.36	0.01	3.66	99.99	96.02
1106	0	0	0.00	0.00	0.00	99.99	96.02
1139	1	526	0.39	0.01	3.98	100.00	100.00
1172	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		4.34E 06	9.76				

TOTAL RAW PARTICLES.... 11359/16584-- 68.49%

NUMBER MEAN DIAMETER... 81.84 MICROMETERS S.D.... 79.34

VOLUME MEAN DIAMETER... 162.66 MICROMETERS S.D.... 336.20

CAUTER MEAN DIAMETER... 331.27 MICROMETERS

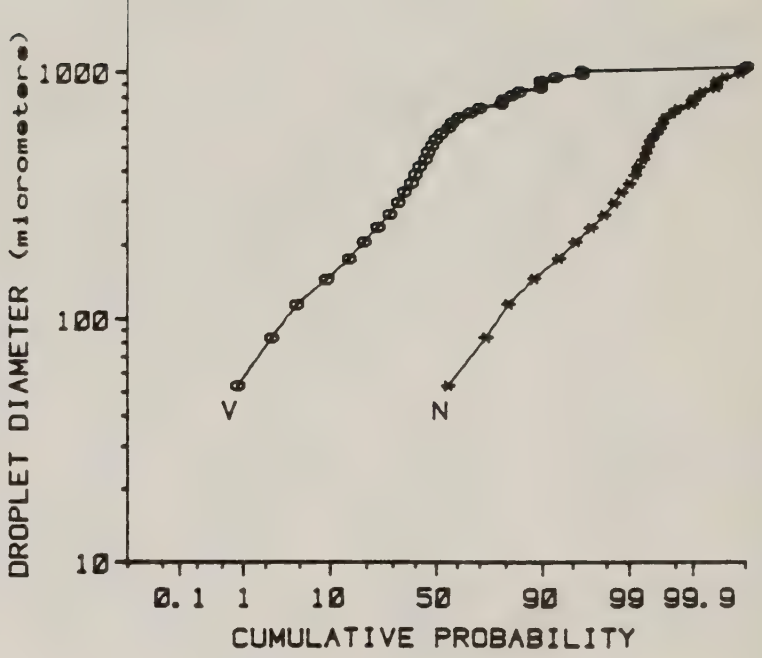
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 150.68 MICROMETERS

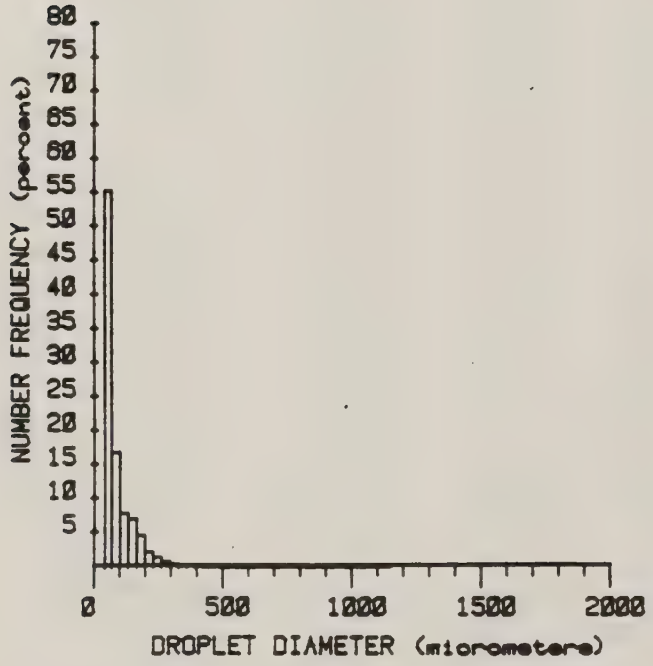
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$... 538.61 MICROMETERS R.S.... 1.44

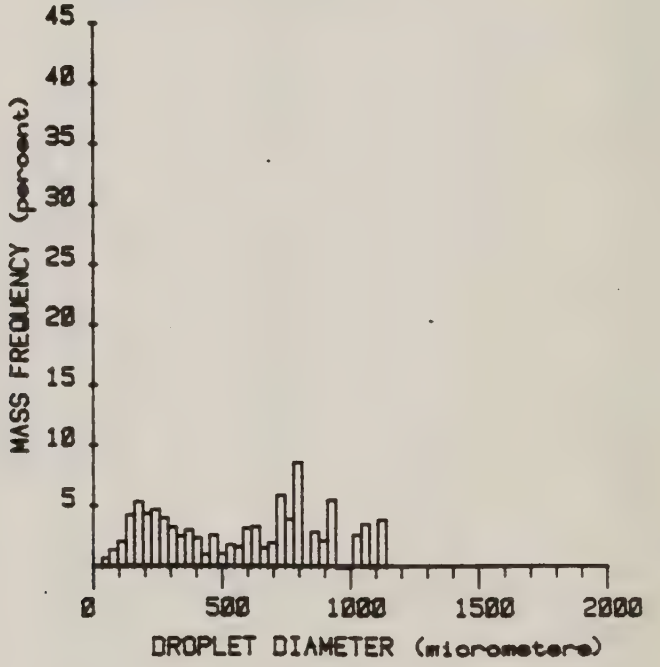
$D_{N0.9}$... 166.59 MICROMETERS $D_{V0.9}$...1011.03 MICROMETERS

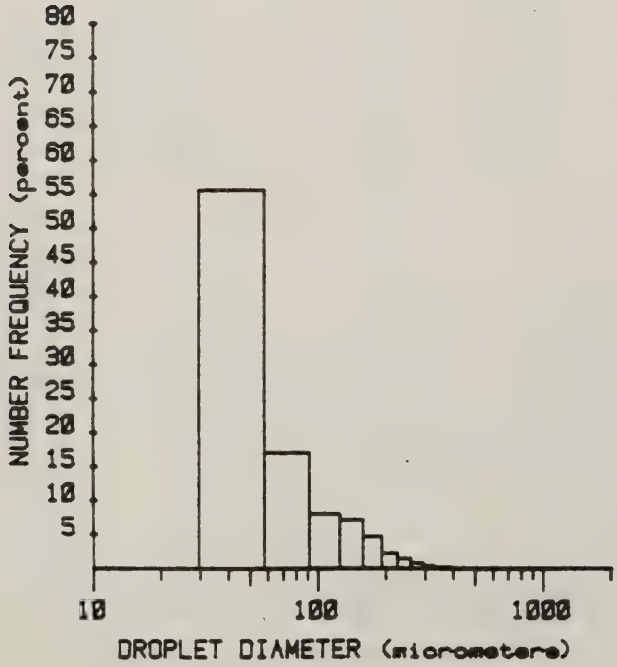
Nozzle Type..... D8 JET
Nozzle Angle Rel.
to Airstream..... 45°
Spray Pressure..... 30 PSI
Airspeed..... 50 MPH

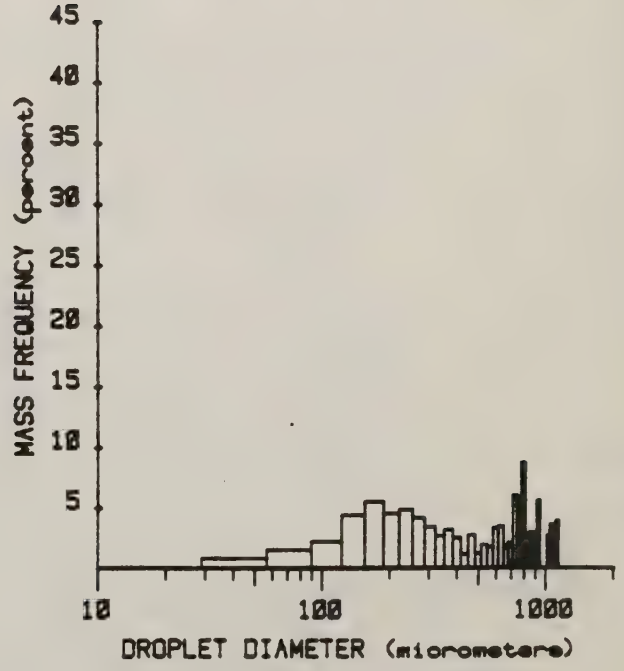
Distance to Probe... 25 cm.
Depth of Field..... 2.0 cm.
Slice Rate..... 1.5 MHz
Date..... 80/09/01
Time..... 04:08:00
File Number..... 11.0.47











D8 Jet,0 Degrees,50 mph,Garlon 11.0.72

DTG 84/09/26 10:26:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	3895	3.59E 06	0.12	63.26	0.10	63.26	0.10
89	5138	631834	0.13	11.13	0.10	74.39	0.20
122	3656	364348	0.22	6.42	0.18	80.81	0.38
154	2550	275263	0.38	4.85	0.31	85.66	0.69
187	1076	134510	0.35	2.37	0.29	88.02	0.97
219	602	78928	0.35	1.39	0.28	89.42	1.26
252	528	64150	0.44	1.13	0.36	90.55	1.61
284	474	53633	0.54	0.94	0.44	91.49	2.06
318	439	42415	0.61	0.75	0.50	92.24	2.55
351	412	44819	0.88	0.79	0.72	93.03	3.27
382	416	38370	0.98	0.68	0.80	93.70	4.07
414	379	34384	1.13	0.61	0.93	94.31	5.00
447	338	29281	1.22	0.52	1.00	94.82	6.00
479	322	28441	1.47	0.50	1.21	95.33	7.21
512	244	21249	1.35	0.37	1.11	95.70	8.31
545	232	22751	1.75	0.40	1.43	96.10	9.75
578	201	20414	1.89	0.36	1.54	96.46	11.29
611	179	19405	2.13	0.34	1.74	96.80	13.03
644	143	14409	1.86	0.25	1.52	97.06	14.55
677	135	12484	1.88	0.22	1.54	97.28	16.09
710	127	14953	2.60	0.26	2.13	97.54	18.22
743	114	12140	2.43	0.21	1.99	97.75	20.21
776	88	12219	2.79	0.22	2.29	97.97	22.50
809	78	11363	2.95	0.20	2.42	98.17	24.91
842	72	10713	3.15	0.19	2.58	98.36	27.49
875	67	8897	2.94	0.16	2.41	98.51	29.90
908	61	6811	2.52	0.12	2.06	98.63	31.96
941	51	6463	2.67	0.11	2.18	98.75	34.14
974	40	8595	3.94	0.15	3.23	98.90	37.37
1007	29	4575	2.32	0.08	1.90	98.98	39.27
1040	33	7518	4.21	0.13	3.45	99.11	42.71
1073	27	3880	2.39	0.07	1.96	99.18	44.67
1106	23	4738	3.20	0.08	2.62	99.26	47.29
1139	27	6006	4.44	0.11	3.63	99.37	50.92
1172	16	2669	2.15	0.05	1.76	99.42	52.68
1205	19	4700	4.12	0.08	3.37	99.50	56.06
1238	11	2162	2.06	0.04	1.69	99.54	57.74
1271	13	3019	3.11	0.05	2.55	99.59	60.29
1304	9	2227	2.48	0.04	2.03	99.63	62.33
1337	9	2179	2.62	0.04	2.15	99.67	64.47
1370	8	2075	2.69	0.04	2.20	99.71	66.67
1403	6	1309	1.82	0.02	1.49	99.73	68.16
1436	5	1347	2.01	0.02	1.65	99.75	69.81
1469	3	494	0.79	0.01	0.65	99.76	70.46
1502	2	857	1.47	0.02	1.20	99.78	71.66
1535	7	2409	4.41	0.04	3.61	99.82	75.27
1568	2	1633	3.19	0.03	2.61	99.85	77.88
1601	3	1391	2.89	0.02	2.37	99.87	80.24
1634	2	1329	2.94	0.02	2.41	99.90	82.65

D8 Jet,0 Degrees,50 mph,Garlon

DTG 84/09/26 10:26:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	1	365	0.86	0.01	0.70	99.90	83.35
1700	1	1106	2.76	0.02	2.26	99.92	85.61
1733	0	0	0.00	0.00	0.00	99.92	85.61
1766	0	0	0.00	0.00	0.00	99.92	85.61
1799	0	0	0.00	0.00	0.00	99.92	85.61
1832	1	593	1.85	0.01	1.52	99.93	87.13
1865	0	0	0.00	0.00	0.00	99.93	87.13
1898	0	0	0.00	0.00	0.00	99.93	87.13
1931	0	0	0.00	0.00	0.00	99.93	87.13
1964	0	0	0.00	0.00	0.00	99.93	87.13
1997	1	3873	15.72	0.07	12.87	100.00	100.00
2030	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		5.68E 06	122.15				

TOTAL RAW PARTICLES.... 22380/27994-- 79.95%

NUMBER MEAN DIAMETER... 111.12 MICROMETERS S.D.... 185.42

VOLUME MEAN DIAMETER... 345.23 MICROMETERS S.D.... 678.76

SAUTER MEAN DIAMETER... 880.51 MICROMETERS

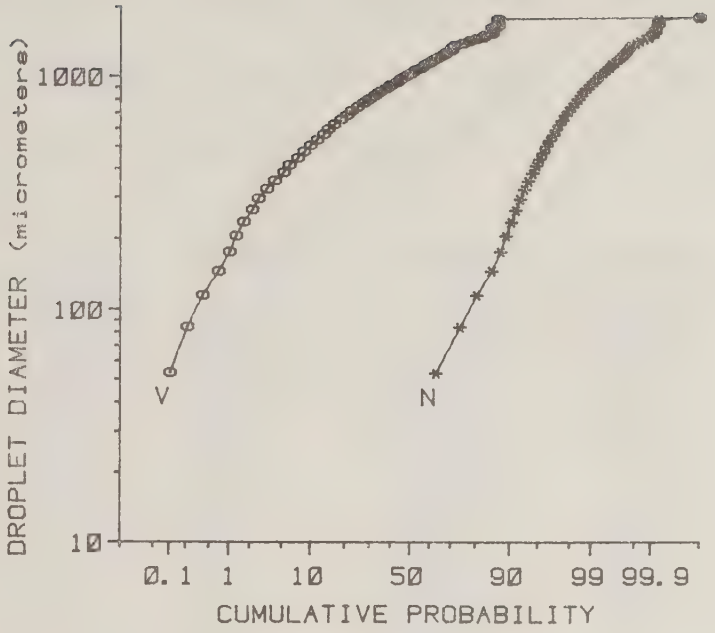
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 549.90 MICROMETERS

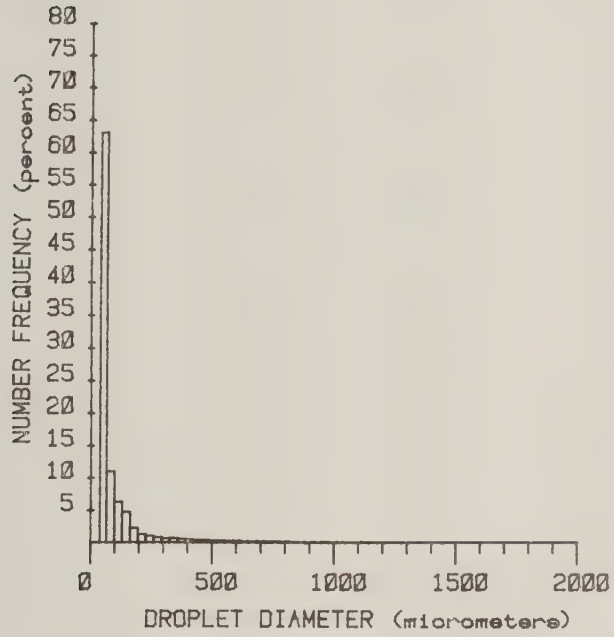
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$...1130.12 MICROMETERS R.S.... 1.26

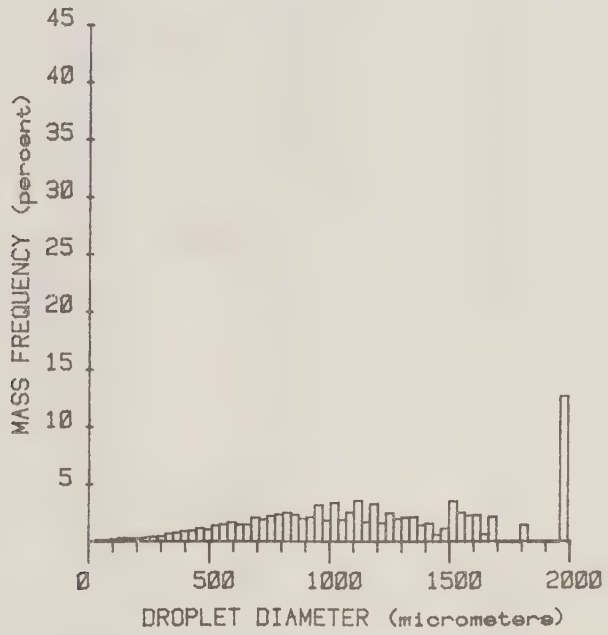
$D_{N0.9}$... 236.52 MICROMETERS $D_{V0.9}$...1970.87 MICROMETERS

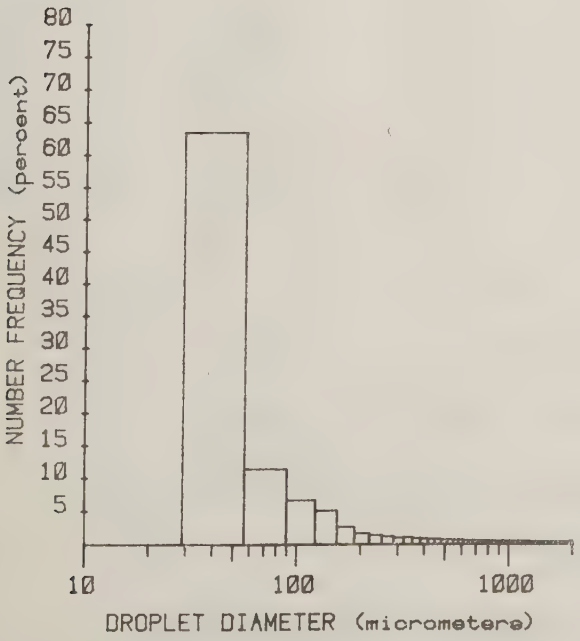
Nozzle Type..... *D8 JET*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

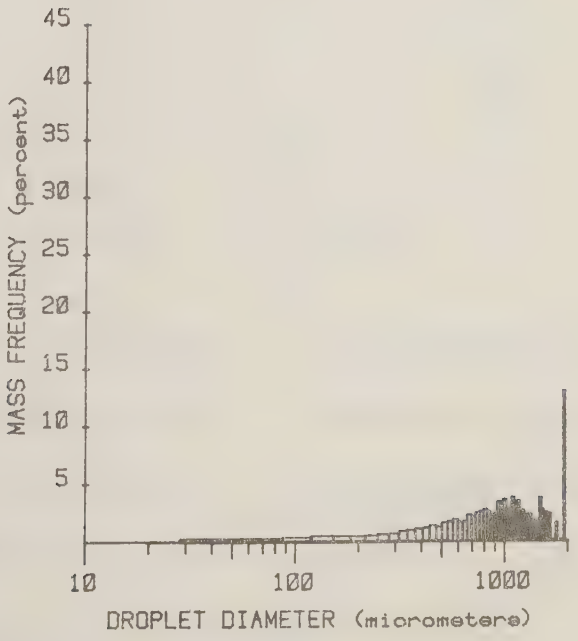
Distance to Probe... *191 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/26*
Time..... *10:26:00*
File Number..... *11.0.72*











D8 Jet,45 Degrees,50 mph,Garlon

DTG 84/09/17 13:38:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	1359	3.59E 06	0.12	52.63	0.52	52.63	0.52
89	3182	1.16E 06	0.23	17.04	1.02	69.68	1.54
122	3358	519315	0.32	7.62	1.39	77.30	2.93
154	2784	438365	0.60	6.43	2.64	83.73	5.57
187	1821	306346	0.79	4.49	3.50	88.22	9.06
219	1131	204309	0.89	3.00	3.94	91.22	13.00
252	735	144625	0.99	2.12	4.34	93.34	17.34
284	535	120021	1.21	1.76	5.31	95.10	22.65
318	334	80033	1.15	1.17	5.07	96.27	27.72
351	197	53388	1.04	0.78	4.60	97.06	32.32
382	140	42863	1.09	0.63	4.82	97.69	37.15
414	91	32359	1.07	0.47	4.69	98.16	41.84
447	62	25184	1.05	0.37	4.62	98.53	46.47
479	46	20992	1.09	0.31	4.80	98.84	51.26
512	48	17691	1.12	0.26	4.95	99.10	56.22
545	27	14118	1.09	0.21	4.79	99.30	61.00
578	22	11218	1.04	0.16	4.56	99.47	65.57
611	10	6873	0.75	0.10	3.32	99.57	68.89
644	12	8635	1.11	0.13	4.90	99.70	73.79
677	10	4865	0.73	0.07	3.22	99.77	77.02
710	7	6207	1.08	0.09	4.76	99.86	81.78
743	5	2967	0.59	0.04	2.62	99.90	84.39
776	2	1817	0.42	0.03	1.83	99.93	86.22
809	2	651	0.17	0.01	0.75	99.94	86.97
842	0	0	0.00	0.00	0.00	99.94	86.97
875	0	0	0.00	0.00	0.00	99.94	86.97
908	1	622	0.23	0.01	1.01	99.95	87.98
941	0	0	0.00	0.00	0.00	99.95	87.98
974	0	0	0.00	0.00	0.00	99.95	87.98
1007	0	0	0.00	0.00	0.00	99.95	87.98
1040	0	0	0.00	0.00	0.00	99.95	87.98
1073	0	0	0.00	0.00	0.00	99.95	87.98
1106	0	0	0.00	0.00	0.00	99.95	87.98
1139	1	1639	1.21	0.02	5.33	99.97	93.32
1172	1	1882	1.52	0.03	6.68	100.00	100.00
1205	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		6.82E 06	22.70				

TOTAL RAW PARTICLES.... 15923/21174-- 75.20%

NUMBER MEAN DIAMETER... 94.02 MICROMETERS S.D.... 96.58

VOLUME MEAN DIAMETER... 185.34 MICROMETERS S.D.... 349.27

SAUTER MEAN DIAMETER... 350.42 MICROMETERS

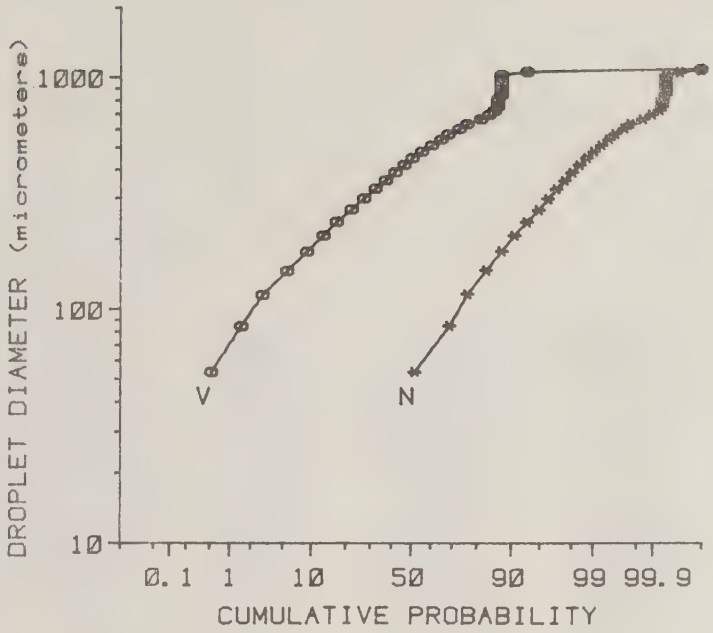
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 194.79 MICROMETERS

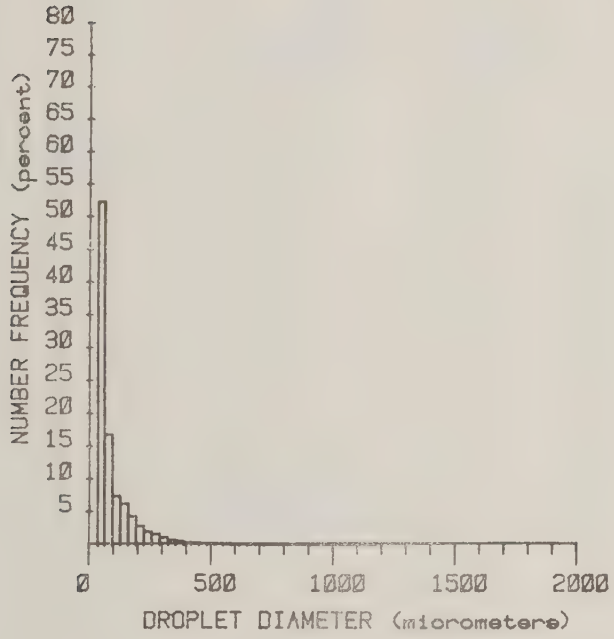
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$... 471.14 MICROMETERS R.S.... 1.96

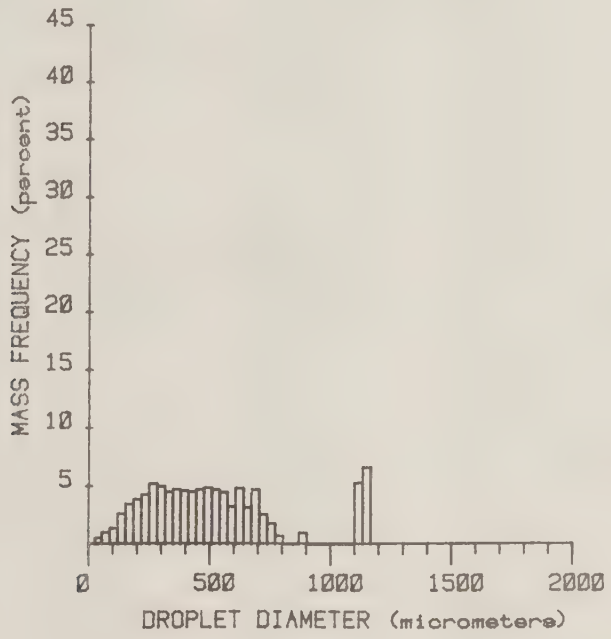
$D_{N0.9}$... 206.54 MICROMETERS $D_{V0.9}$...1117.98 MICROMETERS

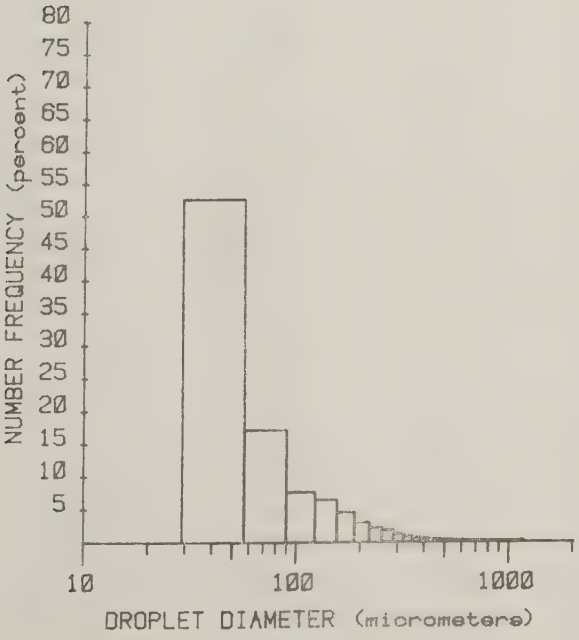
Nozzle Type..... *D8 JET*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

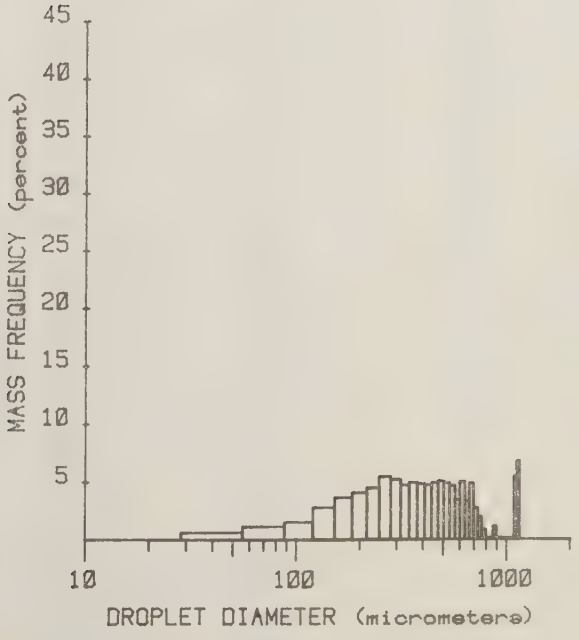
Distance to Probe... *20 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/17*
Time..... *13:38:00*
File Number..... *11.0.57*











D8 Jet,0 Degrees,50 mph,Roundup

DTG 84/09/26 12:47:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	2946	2.01E 06	0.07	60.95	0.08	60.95	0.08
89	4013	351015	0.07	10.62	0.08	71.58	0.16
122	3240	238403	0.14	7.21	0.17	78.79	0.34
154	2300	178989	0.24	5.42	0.30	84.20	0.63
187	1072	94228	0.24	2.85	0.29	87.05	0.93
219	626	53895	0.24	1.63	0.28	88.69	1.21
252	451	38243	0.26	1.16	0.31	89.84	1.53
284	380	28641	0.29	0.87	0.35	90.71	1.87
318	416	30020	0.43	0.91	0.52	91.62	2.39
351	374	27546	0.54	0.83	0.65	92.45	3.05
382	386	24190	0.62	0.73	0.75	93.18	3.79
414	342	23620	0.78	0.71	0.94	93.90	4.73
447	279	16960	0.71	0.51	0.85	94.41	5.58
479	241	13618	0.71	0.41	0.85	94.82	6.43
512	203	13021	0.83	0.39	1.00	95.22	7.43
545	203	14030	1.08	0.42	1.30	95.64	8.73
578	187	12263	1.13	0.37	1.37	96.01	10.10
611	178	11958	1.31	0.36	1.58	96.37	11.68
644	151	10781	1.39	0.33	1.68	96.70	13.36
677	118	9450	1.42	0.29	1.71	96.99	15.07
710	129	10485	1.82	0.32	2.20	97.30	17.28
743	99	8612	1.72	0.26	2.08	97.56	19.35
776	87	6886	1.57	0.21	1.90	97.77	21.25
809	82	6184	1.61	0.19	1.94	97.96	23.19
842	67	5699	1.67	0.17	2.02	98.13	25.21
875	36	3453	1.14	0.10	1.38	98.24	26.59
908	41	3664	1.36	0.11	1.64	98.35	28.22
941	45	3731	1.54	0.11	1.86	98.46	30.08
974	48	5653	2.59	0.17	3.13	98.63	33.21
1007	29	2890	1.47	0.09	1.77	98.72	34.98
1040	27	2715	1.52	0.08	1.83	98.80	36.81
1073	25	2988	1.84	0.09	2.22	98.89	39.03
1106	21	2375	1.60	0.07	1.94	98.96	40.97
1139	21	3066	2.26	0.09	2.73	99.06	43.70
1172	28	3840	3.09	0.12	3.73	99.17	47.43
1205	14	1897	1.66	0.06	2.01	99.23	49.44
1238	20	4423	4.21	0.13	5.08	99.36	54.52
1271	7	1365	1.41	0.04	1.70	99.40	56.22
1304	7	1086	1.21	0.03	1.46	99.44	57.68
1337	11	1609	1.94	0.05	2.33	99.49	60.01
1370	9	2442	3.16	0.07	3.82	99.56	63.83
1403	6	1711	2.38	0.05	2.87	99.61	66.70
1436	4	873	1.30	0.03	1.57	99.64	68.28
1469	4	1607	2.57	0.05	3.10	99.69	71.38
1502	4	1785	3.06	0.05	3.69	99.74	75.07
1535	6	1608	2.94	0.05	3.55	99.79	78.62
1568	3	318	0.62	0.01	0.75	99.80	79.37
1601	5	1853	3.85	0.06	4.65	99.85	84.02
1634	3	1158	2.56	0.04	3.09	99.89	87.10

D8 Jet,0 Degrees,50 mph,Roundup

DTG 84/09/26 12:47:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	1	982	2.31	0.03	2.78	99.92	89.89
1700	3	631	1.57	0.02	1.90	99.94	91.79
1733	0	0	0.00	0.00	0.00	99.94	91.79
1766	0	0	0.00	0.00	0.00	99.94	91.79
1799	0	0	0.00	0.00	0.00	99.94	91.79
1832	0	0	0.00	0.00	0.00	99.94	91.79
1865	3	1527	5.04	0.05	6.08	99.98	97.87
1898	1	508	1.77	0.02	2.13	100.00	100.00
1931	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		3.31E 06	82.89				

TOTAL RAW PARTICLES.... 19002/23265-- 81.68%

NUMBER MEAN DIAMETER... 118.46 MICROMETERS S.D.... 197.24

VOLUME MEAN DIAMETER... 363.30 MICROMETERS S.D.... 684.70

SAUTER MEAN DIAMETER... 905.79 MICROMETERS

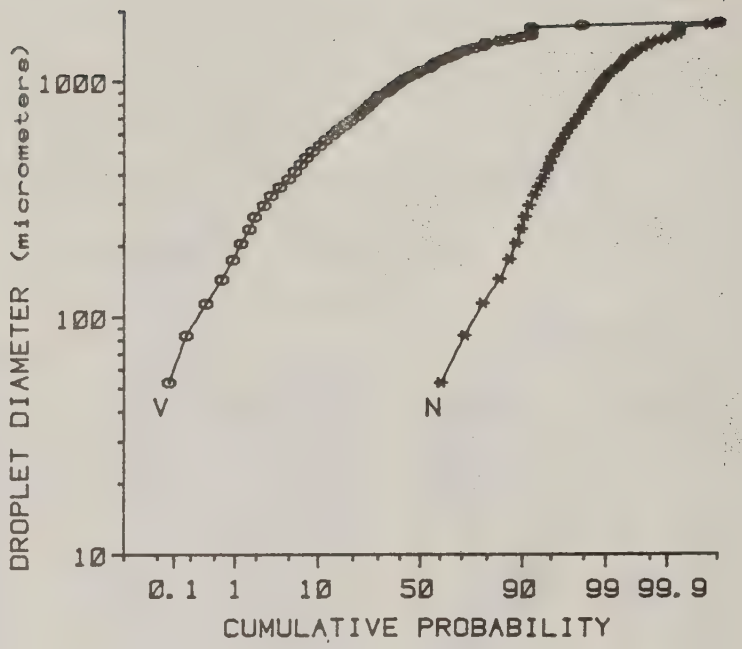
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 575.06 MICROMETERS

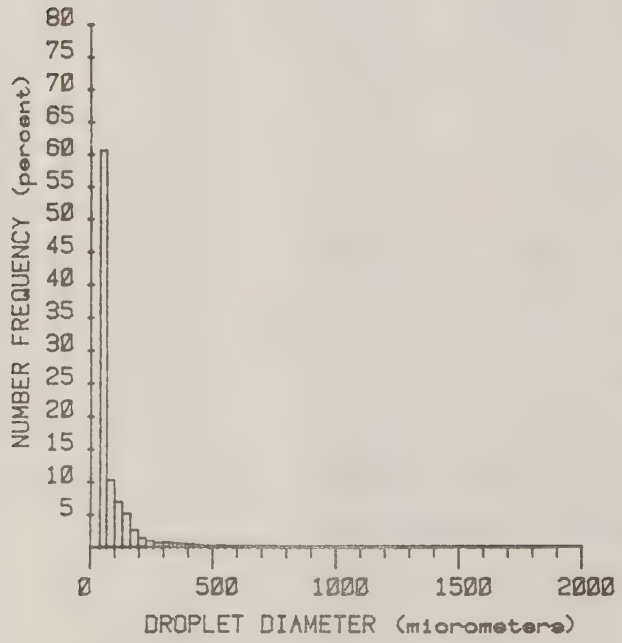
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$...1208.14 MICROMETERS R.S.... 0.91

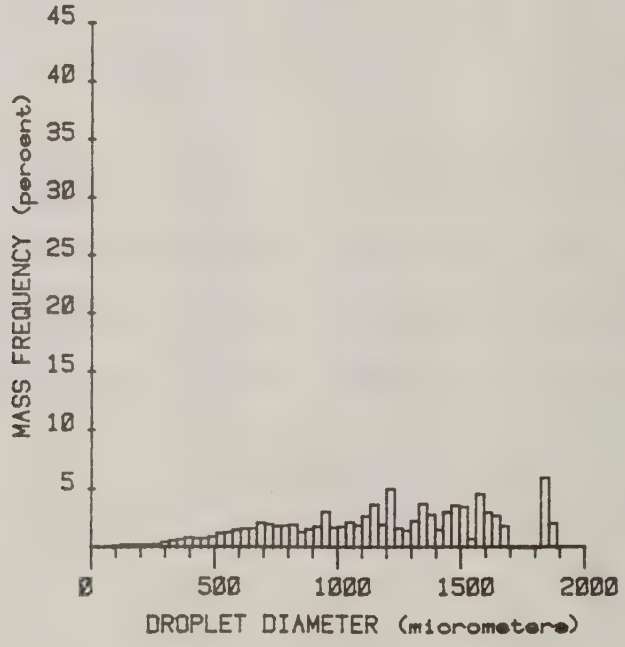
$D_{N0.9}$... 257.79 MICROMETERS $D_{V0.9}$...1668.45 MICROMETERS

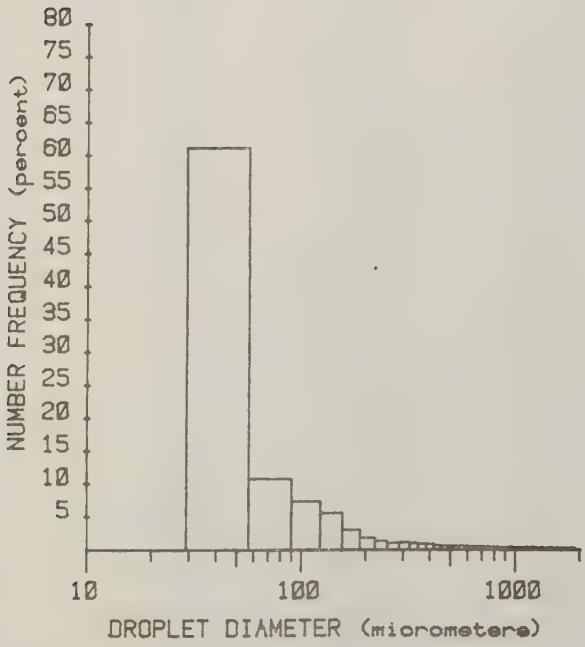
Nozzle Type..... D8 JET
Nozzle Angle Rel.
to Airstream..... 0°
Spray Pressure..... 30 PSI
Airspeed..... 50 MPH

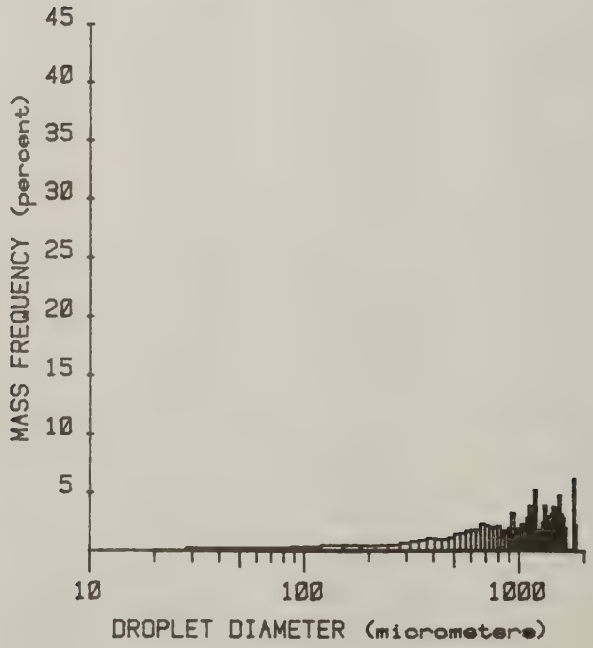
Distance to Probe... 191 cm.
Depth of Field..... 1.0 cm.
Slice Rate..... 1.5 MHz
Date..... 84/09/26
Time..... 12:47:00
File Number..... 11.0.73











D8 Jet,45 Degrees,50 mph,Roundup

DTG 84/09/18 15:08:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	1053	5.03E 06	0.17	56.06	0.72	56.06	0.72
89	2657	1.54E 06	0.31	17.19	1.32	73.25	2.04
122	2823	702136	0.43	7.82	1.84	81.07	3.88
154	2444	678159	0.93	7.56	4.01	88.63	7.89
187	1311	350273	0.91	3.90	3.92	92.53	11.81
219	744	219864	0.96	2.45	4.15	94.98	15.97
252	385	122052	0.83	1.36	3.59	96.34	19.56
284	237	86333	0.87	0.96	3.75	97.31	23.31
318	128	51815	0.74	0.58	3.22	97.88	26.53
351	95	46320	0.91	0.52	3.92	98.40	30.45
382	59	27282	0.70	0.30	3.01	98.70	33.46
414	38	19990	0.66	0.22	2.84	98.93	36.30
447	32	13045	0.54	0.15	2.35	99.07	38.65
479	24	14686	0.76	0.16	3.29	99.24	41.94
512	18	8263	0.53	0.09	2.27	99.33	44.21
545	23	8684	0.67	0.10	2.89	99.43	47.10
578	18	5420	0.50	0.06	2.16	99.49	49.27
611	16	5337	0.58	0.06	2.53	99.54	51.79
644	13	4740	0.61	0.05	2.64	99.60	54.44
677	19	5735	0.86	0.06	3.73	99.66	58.16
710	25	5275	0.92	0.06	3.97	99.72	62.13
743	9	1478	0.30	0.02	1.28	99.74	63.41
776	8	3991	0.91	0.04	3.94	99.78	67.35
809	16	6926	1.80	0.08	7.78	99.86	75.13
842	7	2073	0.61	0.02	2.63	99.88	77.76
875	7	2576	0.85	0.03	3.68	99.91	81.44
908	4	606	0.22	0.01	0.97	99.92	82.41
941	5	2998	1.24	0.03	5.35	99.95	87.76
974	3	786	0.36	0.01	1.56	99.96	89.32
1007	3	840	0.43	0.01	1.84	99.97	91.16
1040	1	1183	0.66	0.01	2.86	99.98	94.02
1073	1	645	0.40	0.01	1.72	99.99	95.74
1106	0	0	0.00	0.00	0.00	99.99	95.74
1139	0	0	0.00	0.00	0.00	99.99	95.74
1172	0	0	0.00	0.00	0.00	99.99	95.74
1205	1	159	0.14	0.00	0.60	99.99	96.34
1238	1	692	0.66	0.01	2.85	100.00	99.19
1271	0	0	0.00	0.00	0.00	100.00	99.19
1304	0	0	0.00	0.00	0.00	100.00	99.19
1337	0	0	0.00	0.00	0.00	100.00	99.19
1370	0	0	0.00	0.00	0.00	100.00	99.19
1403	0	0	0.00	0.00	0.00	100.00	99.19
1436	1	125	0.19	0.00	0.81	100.00	100.00
1469	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		8.97E 06	23.14				

D8 Jet,45 Degrees,50 mph,Roundup

DTG 84/09/18 15:08:00

DFM=2.0--1.5 MHz

TOTAL RAW PARTICLES.... 12229/17591-- 69.52%

NUMBER MEAN DIAMETER... 82.85 MICROMETERS S.D.... 83.96

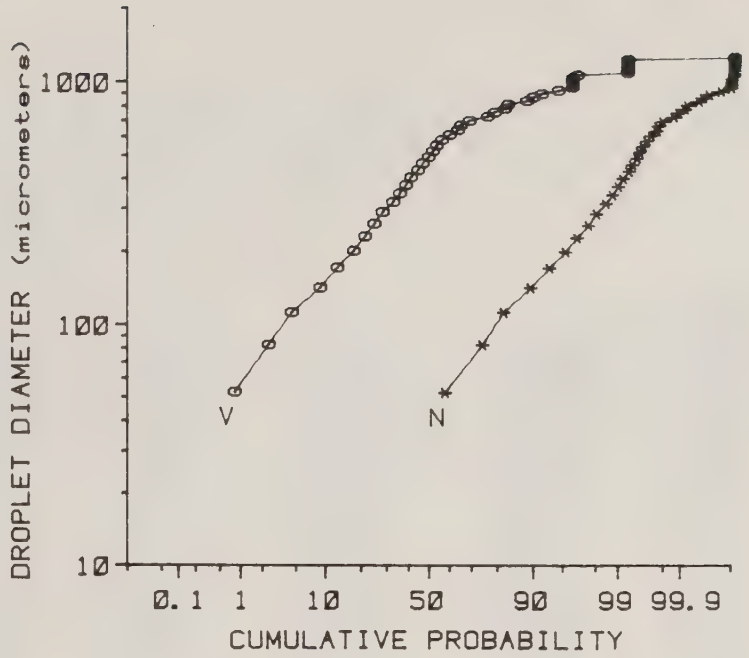
VOLUME MEAN DIAMETER... 170.19 MICROMETERS S.D.... 349.48

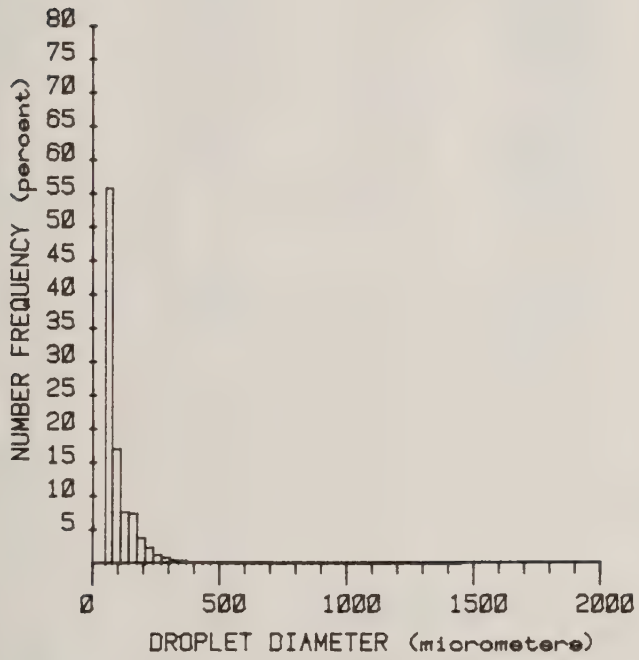
SAUTER MEAN DIAMETER... 354.35 MICROMETERS

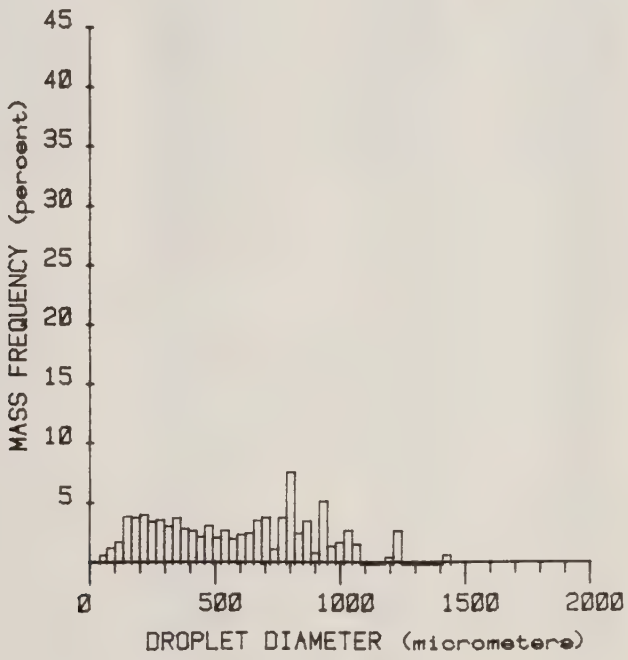
$D_{N0.1}$...	0.00 MICROMETERS	$D_{V0.1}$... 172.02 MICROMETERS	
$D_{N0.5}$...	0.00 MICROMETERS	$D_{V0.5}$... 587.08 MICROMETERS	R.S.... 1.39
$D_{N0.9}$...	165.85 MICROMETERS	$D_{V0.9}$... 985.76 MICROMETERS	

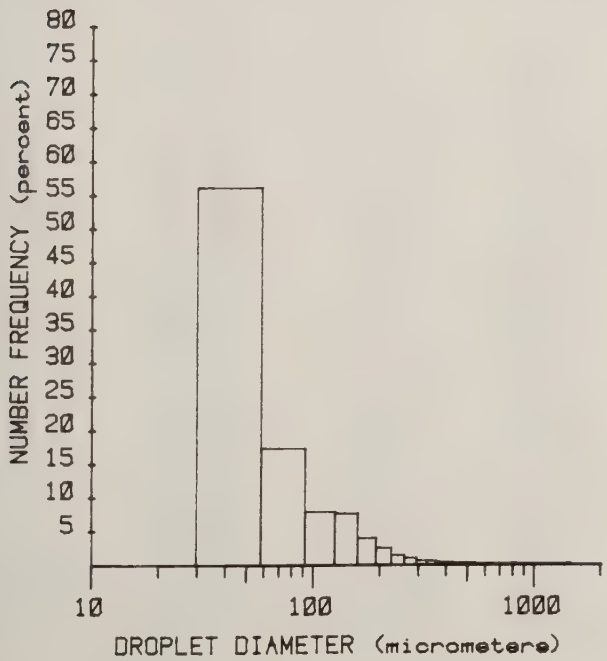
Nozzle Type..... *D8 Jet*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

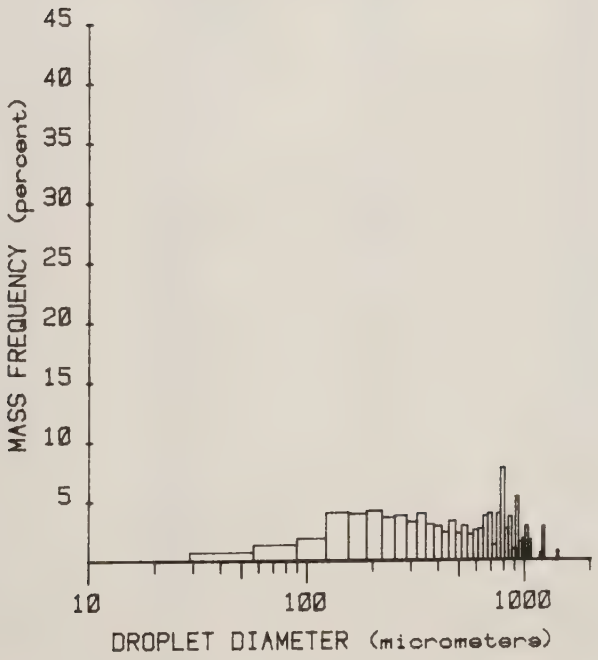
Distance to Probe... *20 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/18*
Time..... *15:08:00*
File Number..... *11.0.67*











D8 Jet,0 Degress,40 psi,50 mph, water

DTG 84/02/10 14:47:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	2982	1.00E 06	0.03	56.62	0.08	56.62	0.08
89	4999	218712	0.04	12.37	0.10	68.98	0.18
122	4602	168239	0.10	9.51	0.25	78.50	0.43
154	3390	122494	0.17	6.93	0.40	85.43	0.83
187	1659	62806	0.16	3.55	0.39	88.98	1.22
219	914	33058	0.14	1.87	0.35	90.85	1.57
252	606	20564	0.14	1.16	0.34	92.01	1.91
284	482	15721	0.16	0.89	0.38	92.90	2.29
318	410	11044	0.16	0.62	0.33	93.52	2.67
351	359	9439	0.18	0.53	0.44	94.06	3.11
332	341	8751	0.22	0.49	0.54	94.55	3.65
414	249	5760	0.19	0.33	0.46	94.88	4.11
447	263	6795	0.28	0.38	0.68	95.26	4.79
479	222	5648	0.29	0.32	0.70	95.58	5.49
512	227	5824	0.37	0.33	0.89	95.91	6.38
545	221	5818	0.45	0.33	1.08	96.24	7.46
578	174	5235	0.48	0.30	1.16	96.54	8.62
611	165	4460	0.49	0.25	1.18	96.79	9.80
644	151	4373	0.56	0.25	1.36	97.04	11.15
677	155	4539	0.68	0.26	1.64	97.29	12.80
710	116	3361	0.58	0.19	1.41	97.48	14.20
743	102	3374	0.68	0.19	1.62	97.67	15.83
776	93	3265	0.75	0.18	1.80	97.86	17.62
809	91	2803	0.73	0.16	1.75	98.02	19.37
842	101	3514	1.03	0.20	2.48	98.22	21.86
875	59	2148	0.71	0.12	1.71	98.34	23.56
908	65	2625	0.97	0.15	2.34	98.49	25.90
941	46	1922	0.79	0.11	1.91	98.59	27.80
974	54	2261	1.04	0.13	2.49	98.72	30.30
1007	48	1911	0.97	0.11	2.33	98.83	32.63
1040	34	1617	0.91	0.09	2.18	98.92	34.81
1073	42	2033	1.25	0.11	3.01	99.04	37.82
1105	25	1012	0.68	0.06	1.64	99.09	39.46
1139	26	1250	0.92	0.07	2.22	99.16	41.68
1172	15	1105	0.89	0.06	2.14	99.23	43.82
1205	21	1019	0.89	0.06	2.15	99.28	45.97
1238	30	1484	1.41	0.08	3.40	99.37	49.37
1271	15	918	0.95	0.05	2.28	99.42	51.65
1304	12	1098	1.22	0.06	2.94	99.48	54.59
1337	8	879	1.06	0.05	2.54	99.53	57.13
1370	11	698	0.90	0.04	2.17	99.57	59.31
1403	10	764	1.06	0.04	2.56	99.61	61.86
1436	9	631	0.94	0.04	2.27	99.65	64.13
1469	10	697	1.12	0.04	2.68	99.69	66.82
1502	8	409	0.70	0.02	1.69	99.71	68.50
1535	7	680	1.24	0.04	2.99	99.75	71.50
1568	2	212	0.41	0.01	1.00	99.76	72.49
1601	3	694	1.44	0.04	3.47	99.80	75.96
1634	2	631	1.39	0.04	3.35	99.84	79.31

D8 Jet,0 Degress,40 psi,50 mph, water

DTG 84/02/10 14:47:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	qm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	1	187	0.44	0.01	1.06	99.85	80.37
1700	0	0	0.00	0.00	0.00	99.85	80.37
1733	6	1117	2.95	0.06	7.10	99.91	87.47
1766	0	0	0.00	0.00	0.00	99.91	87.47
1799	2	203	0.60	0.01	1.45	99.92	88.92
1832	2	738	2.31	0.04	5.55	99.97	94.47
1865	2	330	1.09	0.02	2.62	99.98	97.08
1898	0	0	0.00	0.00	0.00	99.98	97.08
1931	0	0	0.00	0.00	0.00	99.98	97.08
1964	0	0	0.00	0.00	0.00	99.98	97.08
1997	0	0	0.00	0.00	0.00	99.98	97.08
2030	1	284	1.21	0.02	2.92	100.00	100.00
2063	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		1.77E 06	41.58				

TOTAL RAW PARTICLES.... 23650/26032-- 90.85%

NUMBER MEAN DIAMETER... 113.84 MICROMETERS S.D.... 187.79

VOLUME MEAN DIAMETER... 355.59 MICROMETERS S.D.... 693.66

SAUTER MEAN DIAMETER... 932.30 MICROMETERS

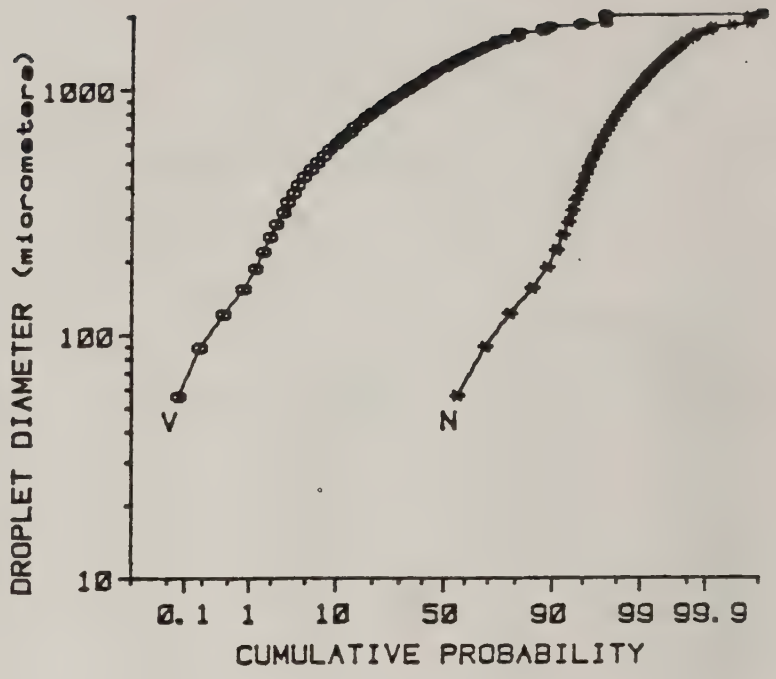
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 615.41 MICROMETERS

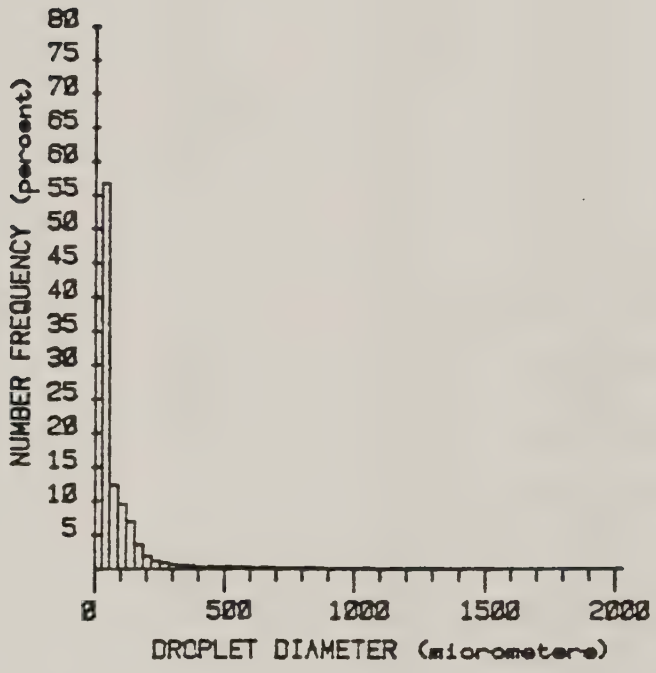
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$...1246.64 MICROMETERS R.S.... 0.95

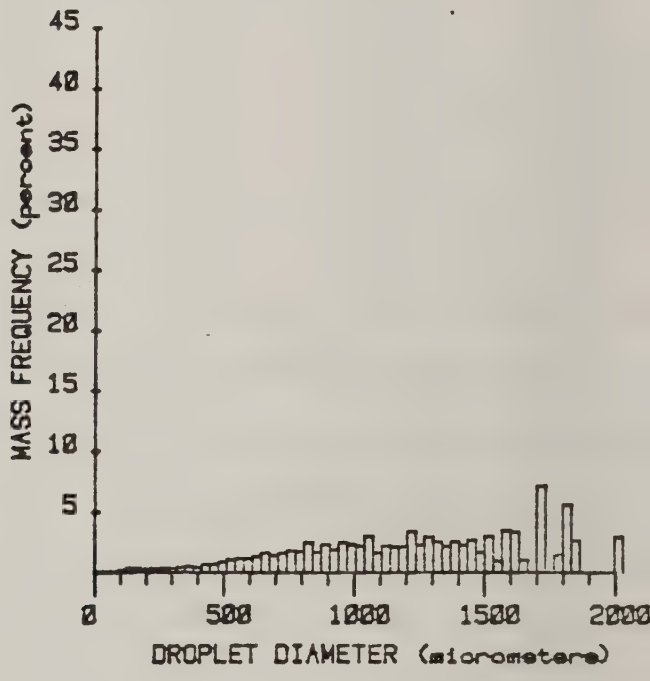
$D_{N0.9}$... 204.99 MICROMETERS $D_{V0.9}$...1804.95 MICROMETERS

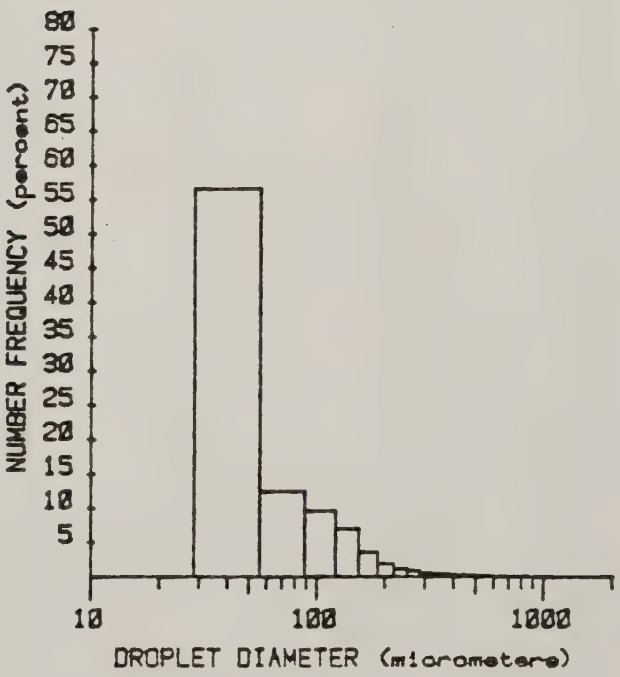
Nozzle Type..... *D8 JET*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *40 PSI*
Airspeed..... *50 MPH*

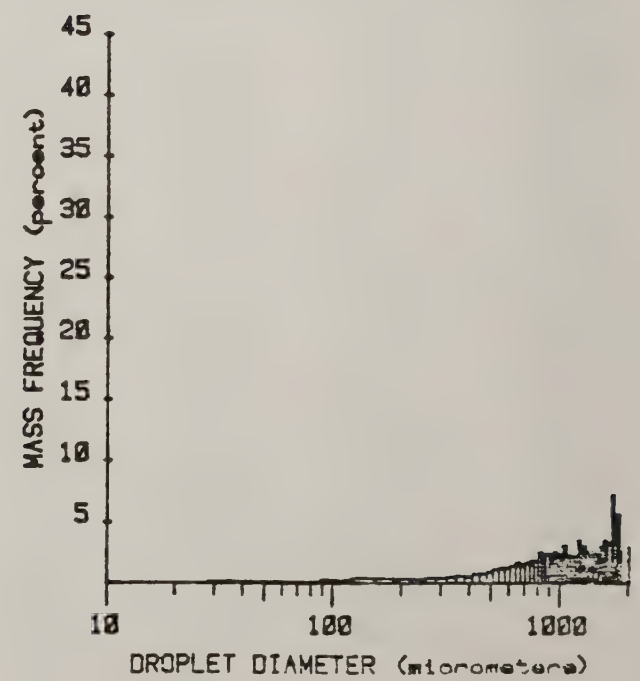
Distance to Probe... *198 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/02/10*
Time..... *14:47:00*
File Number..... *9.0.3*











D8-46,0 Degrees,50 mph,Esteron 99

DTG 80/09/01 05:39:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	3053	1.09E 07	0.36	52.52	0.26	52.52	0.26
89	5750	2.30E 06	0.46	11.12	0.33	63.64	0.59
122	5081	1.13E 06	0.69	5.45	0.50	69.09	1.09
154	4743	1.21E 06	1.55	5.84	1.20	74.93	2.30
187	3674	1.05E 06	2.72	5.06	1.98	79.99	4.27
219	2269	714817	3.13	3.45	2.27	83.44	6.55
252	1646	566122	3.86	2.73	2.81	86.17	9.35
284	1350	530996	5.33	2.56	3.88	88.73	13.23
318	1059	413039	5.94	1.99	4.32	90.73	17.55
351	947	376547	7.37	1.82	5.36	92.54	22.91
382	700	282170	7.20	1.36	5.24	93.90	28.16
414	702	268407	8.84	1.30	6.43	95.20	34.59
447	527	211450	8.31	1.02	6.41	96.22	41.00
479	522	179418	9.30	0.87	6.77	97.09	47.77
512	420	128435	8.17	0.62	6.04	97.71	53.71
545	309	109334	8.46	0.53	6.15	98.24	59.86
578	295	83312	7.74	0.40	5.63	98.64	65.49
611	265	81394	8.98	0.40	6.53	99.04	72.03
644	205	58083	7.49	0.28	5.45	99.32	77.47
677	130	33844	5.09	0.16	3.70	99.48	81.18
710	90	28587	4.98	0.14	3.62	99.62	84.80
743	89	23894	4.78	0.12	3.48	99.73	88.28
776	54	13510	3.09	0.07	2.25	99.80	90.52
809	38	16505	4.29	0.08	3.12	99.88	93.64
842	25	11853	3.48	0.06	2.53	99.94	96.18
875	14	2369	0.78	0.01	0.57	99.95	96.75
908	12	6714	2.48	0.03	1.81	99.98	98.55
941	3	858	0.35	0.00	0.26	99.98	98.81
974	2	2978	1.37	0.01	0.99	100.00	99.80
1007	0	0	0.00	0.00	0.00	100.00	99.80
1040	1	57	0.03	0.00	0.02	100.00	99.83
1073	1	251	0.15	0.00	0.11	100.00	99.94
1106	1	121	0.08	0.00	0.06	100.00	100.00
1139	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.07E 07	137.43				

TOTAL RAW PARTICLES.... 34247/44320-- 77.27%

NUMBER MEAN DIAMETER... 110.55 MICROMETERS S.D.... 130.70

VOLUME MEAN DIAMETER... 233.20 MICROMETERS S.D.... 353.93

SAUTER MEAN DIAMETER... 404.22 MICROMETERS

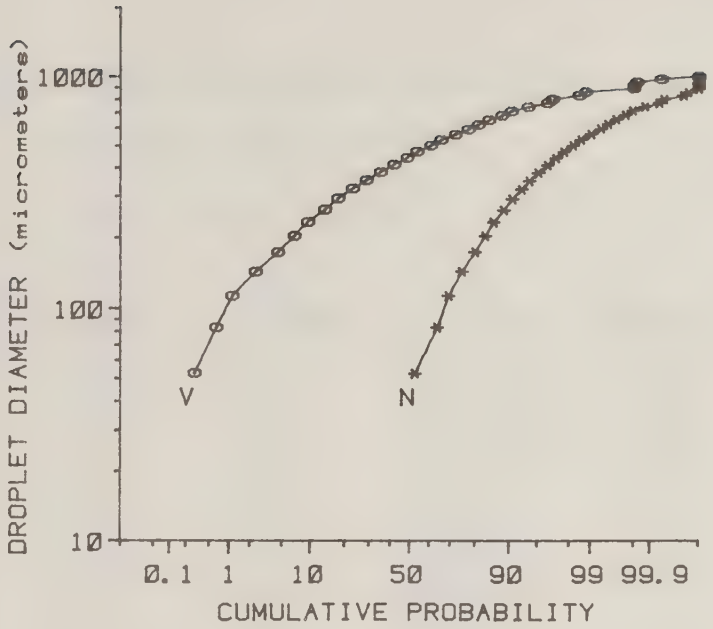
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 257.30 MICROMETERS

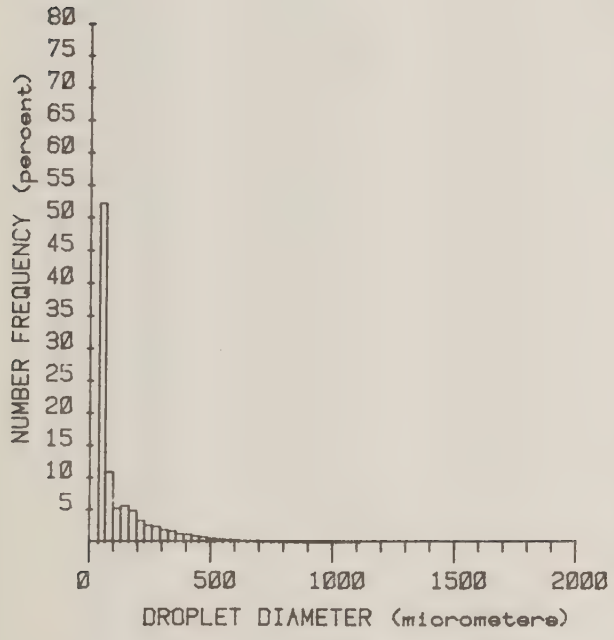
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$... 491.72 MICROMETERS R.S.... 1.04

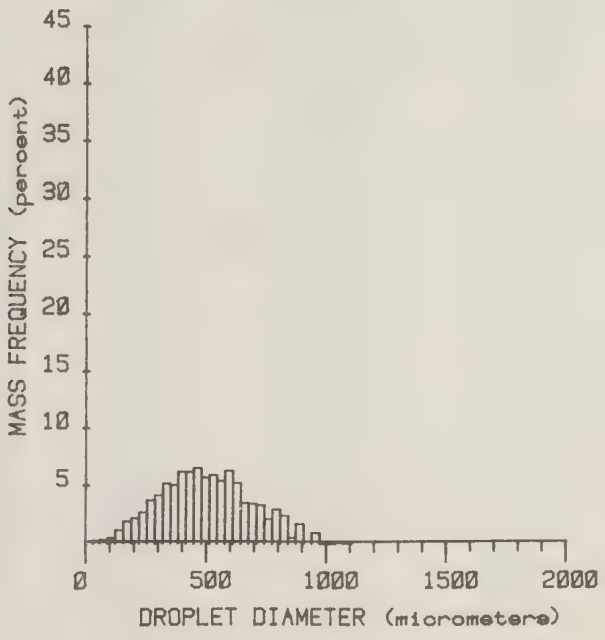
$D_{N0.9}$... 305.28 MICROMETERS $D_{V0.9}$... 767.80 MICROMETERS

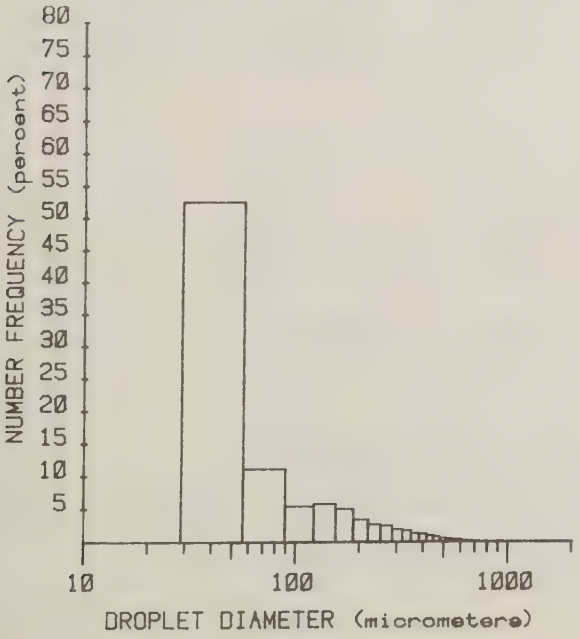
Nozzle Type..... *D8-46*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

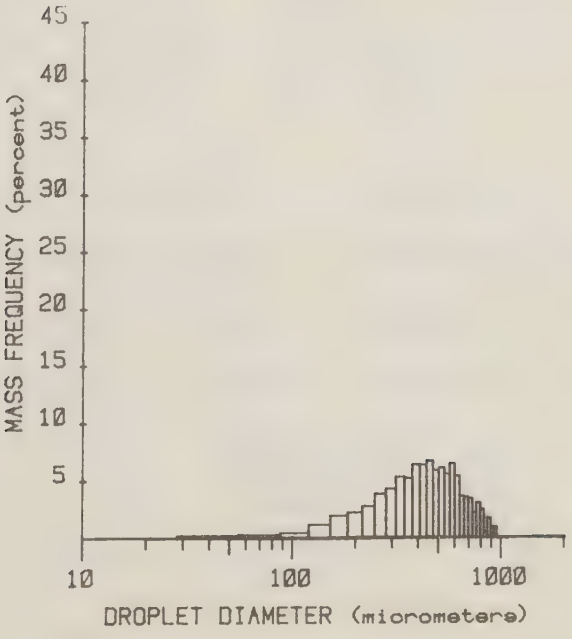
Distance to Probe... *38 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *80/09/01*
Time..... *05:39:00*
File Number..... *11.0.48*











D8-46,45 Degrees,50 mph,Esteron 99

DTG 84/09/05 14:29:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	qm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	1426	1.29E 07	0.42	52.75	0.49	52.75	0.49
89	2787	3.39E 06	0.67	13.87	0.77	66.62	1.26
122	2594	2.50E 06	1.52	10.23	1.74	76.85	3.00
154	1804	1.82E 06	2.49	7.44	2.85	84.30	5.85
187	883	931323	2.41	3.81	2.76	88.11	8.61
219	550	576480	2.96	2.77	3.39	90.87	11.99
252	390	539566	3.68	2.21	4.21	93.08	16.20
284	277	400869	4.03	1.64	4.61	94.72	20.81
318	221	319615	4.59	1.31	5.26	96.03	26.07
351	145	191776	3.75	0.78	4.30	96.81	30.37
382	109	147838	3.77	0.60	4.32	97.42	34.69
414	94	106538	3.51	0.44	4.02	97.85	38.71
447	72	88632	3.69	0.36	4.23	98.22	42.94
479	67	69446	3.60	0.28	4.12	98.50	47.06
512	41	38437	2.44	0.16	2.80	98.66	49.86
545	68	63508	5.27	0.28	6.04	98.94	55.90
578	54	60469	5.58	0.25	6.39	99.18	62.29
611	68	50042	5.49	0.20	6.28	99.39	68.57
644	53	42696	5.50	0.17	6.30	99.56	74.87
677	42	39751	5.98	0.16	6.84	99.73	81.72
710	39	22073	3.84	0.09	4.40	99.82	86.12
743	25	13551	2.71	0.06	3.11	99.87	89.22
776	20	6935	1.59	0.03	1.82	99.90	91.04
809	9	4948	1.29	0.02	1.47	99.92	92.51
842	11	11937	3.51	0.05	4.01	99.97	96.52
875	5	2963	0.98	0.01	1.12	99.98	97.64
908	1	317	0.12	0.00	0.13	99.98	97.78
941	2	1361	0.56	0.01	0.64	99.99	98.42
974	1	751	0.34	0.00	0.39	99.99	98.82
1007	1	2039	1.03	0.01	1.18	100.00	100.00
1040	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.44E 07	87.34				

TOTAL RAW PARTICLES.... 11859/17208-- 68.92%

NUMBER MEAN DIAMETER... 96.24 MICROMETERS S.D.... 100.02

VOLUME MEAN DIAMETER... 189.75 MICROMETERS S.D.... 325.65

SAUTER MEAN DIAMETER... 354.61 MICROMETERS

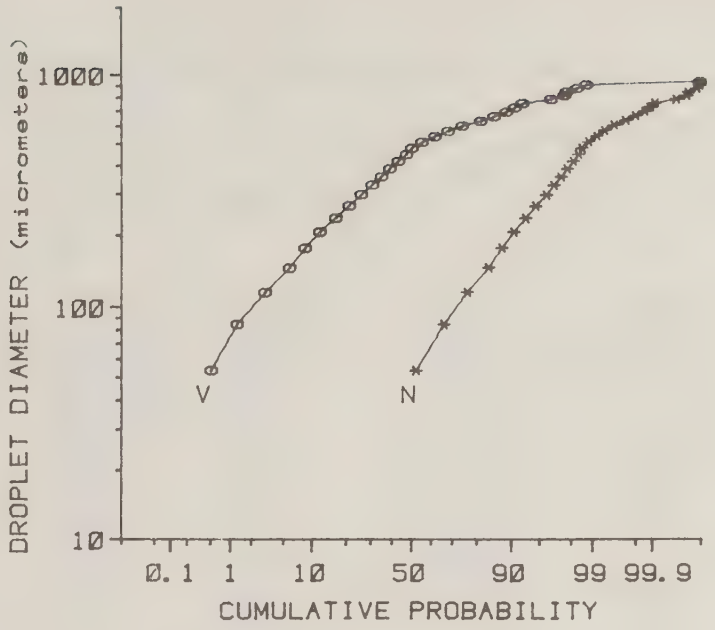
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 200.51 MICROMETERS

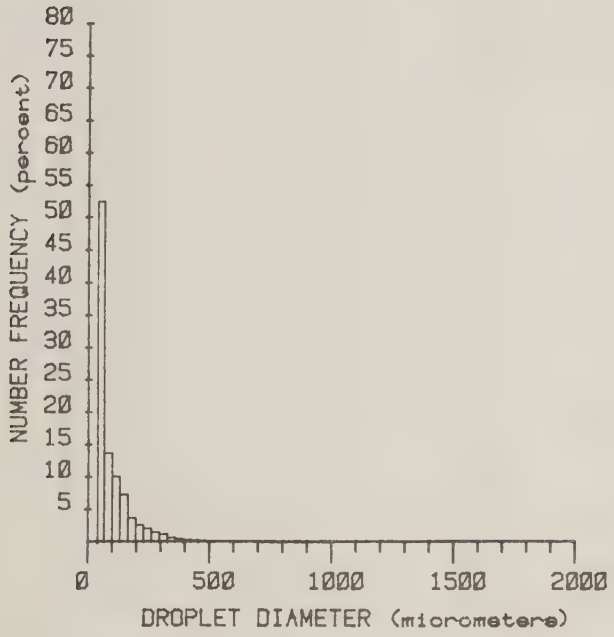
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$... 512.61 MICROMETERS R.S.... 1.08

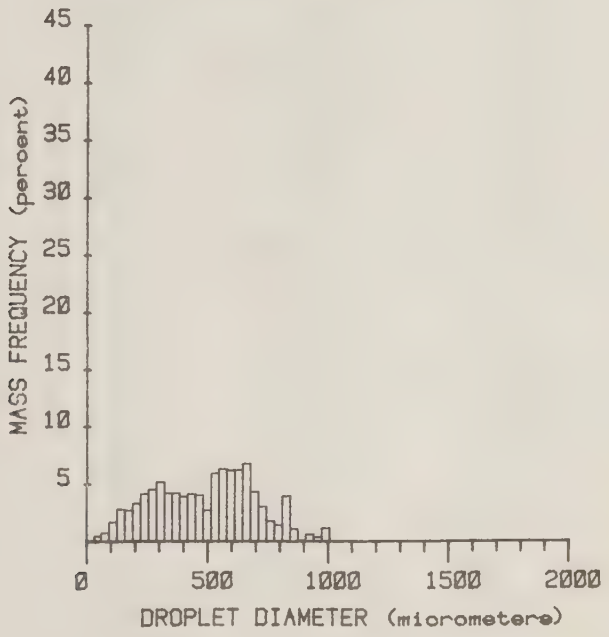
$D_{N0.9}$... 209.54 MICROMETERS $D_{V0.9}$... 756.56 MICROMETERS

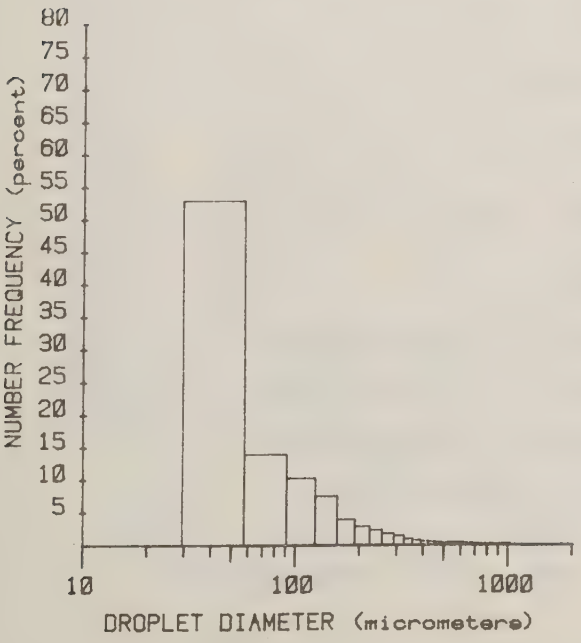
Nozzle Type..... *D8-46*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

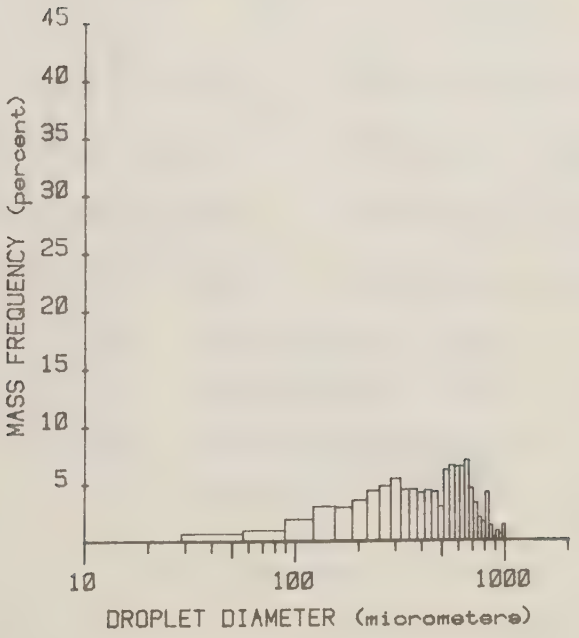
Distance to Probe... *25 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/05*
Time..... *14:29:00*
File Number..... *11.0.46*











D8-46,90 Degrees,50 mph,Esteron 99

DTG 84/08/30 14:57:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	3452	1.23E 07	0.40	51.22	0.50	51.22	0.50
89	4457	2.99E 06	0.59	12.49	0.74	63.71	1.24
122	3774	2.45E 06	1.49	10.25	1.85	73.96	3.09
154	3024	1.95E 06	2.66	8.13	3.31	82.10	6.40
187	1682	1.20E 06	3.11	5.02	3.86	87.11	10.27
219	999	818053	3.58	3.42	4.45	90.53	14.71
252	713	558627	3.81	2.33	4.73	92.87	19.45
284	559	383948	3.86	1.60	4.80	94.47	24.24
318	503	292204	4.20	1.22	5.22	95.69	29.47
351	502	269970	5.28	1.13	6.57	96.82	36.04
382	415	176489	4.51	0.74	5.60	97.56	41.64
414	312	114601	3.77	0.48	4.69	98.04	46.33
447	287	104853	4.37	0.44	5.43	98.48	51.77
479	214	80105	4.15	0.33	5.17	98.81	56.93
512	156	60509	3.85	0.25	4.78	99.06	61.71
545	127	53812	4.14	0.22	5.15	99.29	66.87
578	95	30741	2.84	0.13	3.53	99.42	70.40
611	77	32110	3.52	0.13	4.38	99.55	74.77
644	60	25337	3.27	0.11	4.06	99.66	78.84
677	55	29444	4.43	0.12	5.51	99.78	84.34
710	36	9978	1.74	0.04	2.16	99.82	86.50
743	24	10751	2.15	0.04	2.68	99.87	89.18
776	21	12885	2.95	0.05	3.66	99.92	92.84
809	11	6461	1.68	0.03	2.09	99.95	94.93
842	7	3448	1.01	0.01	1.26	99.96	96.19
875	6	5631	1.86	0.02	2.31	99.99	98.50
908	2	3256	1.20	0.01	1.50	100.00	100.00
941	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.39E 07	80.41				

TOTAL RAW PARTICLES.... 21570/29093-- 74.14%

NUMBER MEAN DIAMETER... 99.29 MICROMETERS S.D.... 98.05

VOLUME MEAN DIAMETER... 185.92 MICROMETERS S.D.... 312.73

SAUTER MEAN DIAMETER... 330.03 MICROMETERS

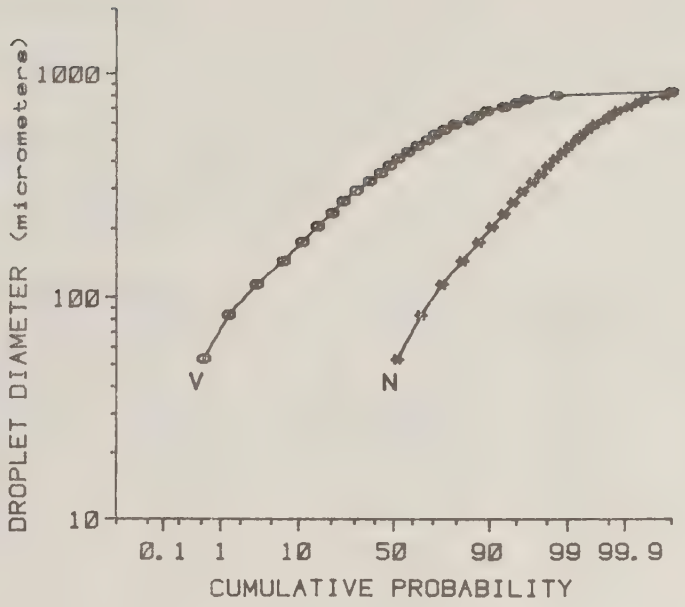
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 184.99 MICROMETERS

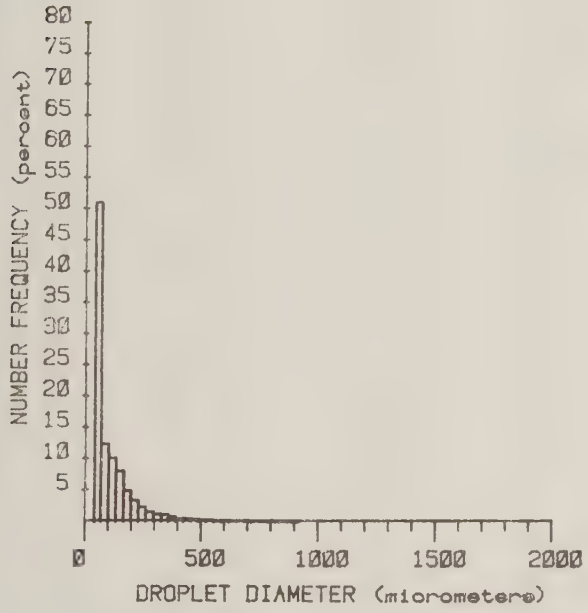
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$... 436.59 MICROMETERS R.S.... 1.29

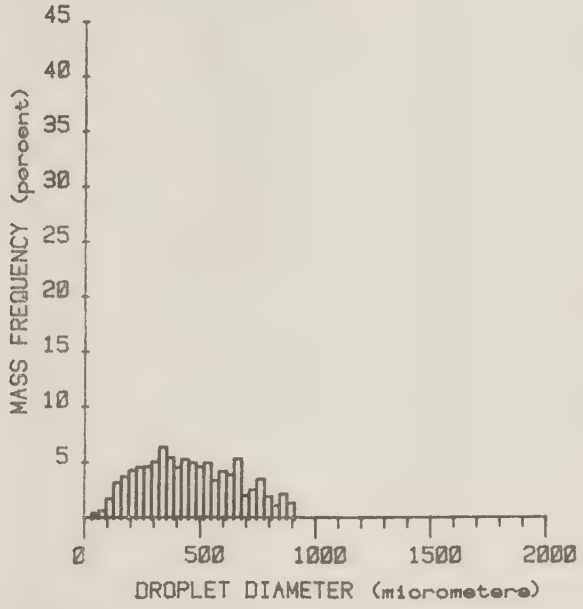
$D_{N0.9}$... 214.81 MICROMETERS $D_{V0.9}$... 749.91 MICROMETERS

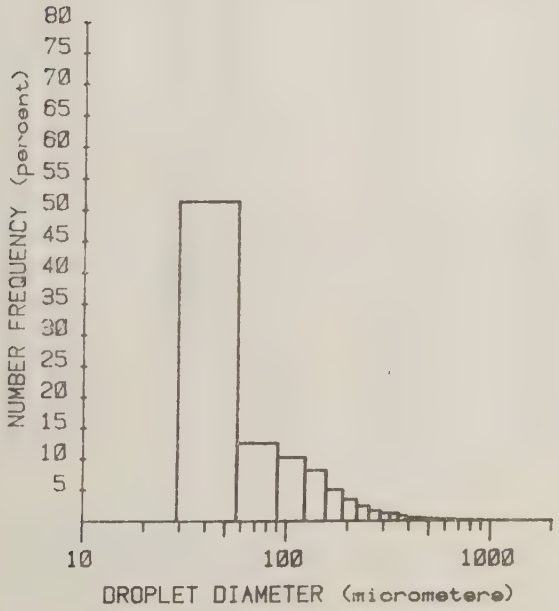
Nozzle Type..... *D8-46*
Nozzle Angle Rel.
to Airstream..... *90°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

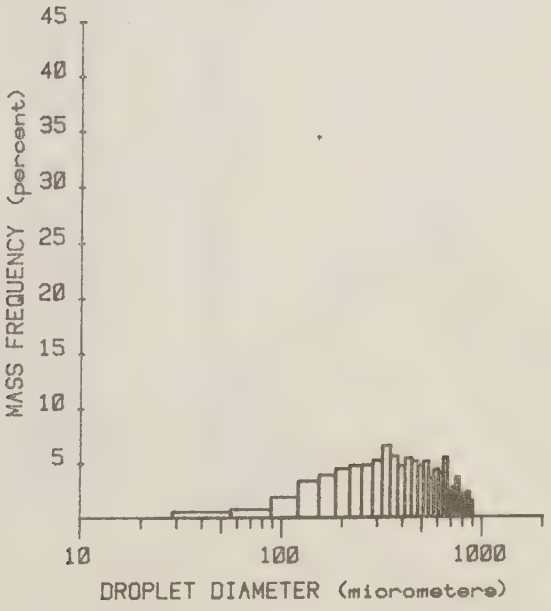
Distance to Probe... *15 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/08/30*
Time..... *14:57:00*
File Number..... *11.0.41*











D6-46,0 Degrees,50 mph,Garlon

DTG 84/09/14 15:02:00

DFH=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	2558	7.92E 06	0.26	43.13	0.20	43.13	0.20
89	4773	1.99E 06	0.39	10.81	0.31	53.93	0.51
122	3864	1.06E 06	0.64	5.75	0.50	59.63	1.01
154	3950	1.57E 06	2.15	8.56	1.68	68.24	2.69
187	3191	1.45E 06	3.74	7.87	2.92	76.11	5.60
219	2114	905389	4.35	5.42	3.39	81.53	9.00
252	1529	703409	4.83	3.86	3.76	85.38	12.76
284	1194	528175	5.31	2.88	4.13	88.26	16.89
318	1050	438629	6.31	2.39	4.91	90.65	21.81
351	919	364515	7.13	1.98	5.56	92.63	27.37
382	742	275223	7.05	1.50	5.50	94.13	32.86
414	603	204182	6.72	1.11	5.24	95.25	38.10
447	571	180829	7.54	0.98	5.87	96.23	43.98
479	459	137699	7.14	0.75	5.56	96.98	49.54
512	421	127484	8.10	0.69	6.32	97.67	55.86
545	333	92766	7.14	0.50	5.57	98.18	61.42
578	263	79483	7.34	0.43	5.72	98.61	67.14
611	265	70412	7.72	0.38	6.02	98.99	73.16
644	205	56597	7.30	0.31	5.69	99.30	78.85
677	138	39141	5.89	0.21	4.59	99.51	83.43
710	83	25667	4.47	0.14	3.48	99.65	86.92
743	80	22780	4.56	0.12	3.55	99.78	90.47
776	54	15784	3.61	0.09	2.81	99.86	93.28
808	27	8023	2.32	0.05	1.81	99.91	95.09
842	15	4578	1.34	0.02	1.05	99.94	96.14
875	16	4823	1.59	0.03	1.24	99.96	97.38
908	6	2857	1.06	0.02	0.82	99.98	98.20
941	5	1217	0.50	0.01	0.39	99.99	98.60
974	2	566	0.26	0.00	0.20	99.99	98.80
1007	1	462	0.23	0.00	0.18	99.99	98.98
1040	0	0	0.00	0.00	0.00	99.99	98.98
1073	1	58	0.04	0.00	0.03	99.99	99.01
1106	3	848	0.57	0.00	0.45	100.00	99.46
1139	0	0	0.00	0.00	0.00	100.00	99.46
1172	0	0	0.00	0.00	0.00	100.00	99.46
1205	0	0	0.00	0.00	0.00	100.00	99.46
1238	0	0	0.00	0.00	0.00	100.00	99.46
1271	0	0	0.00	0.00	0.00	100.00	99.46
1304	0	0	0.00	0.00	0.00	100.00	99.46
1337	0	0	0.00	0.00	0.00	100.00	99.46
1370	1	540	0.70	0.00	0.54	100.00	100.00
1403	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		1.84E 07	128.30				

D8-46,0 Degrees,50 mph,Garlon

DTG 84/09/14 15:02:00

DFM=2.0--1.5 MHz

TOTAL RAW PARTICLES.... 29436/37106-- 79.33%

NUMBER MEAN DIAMETER... 133.28 MICROMETERS S.D.... 129.78

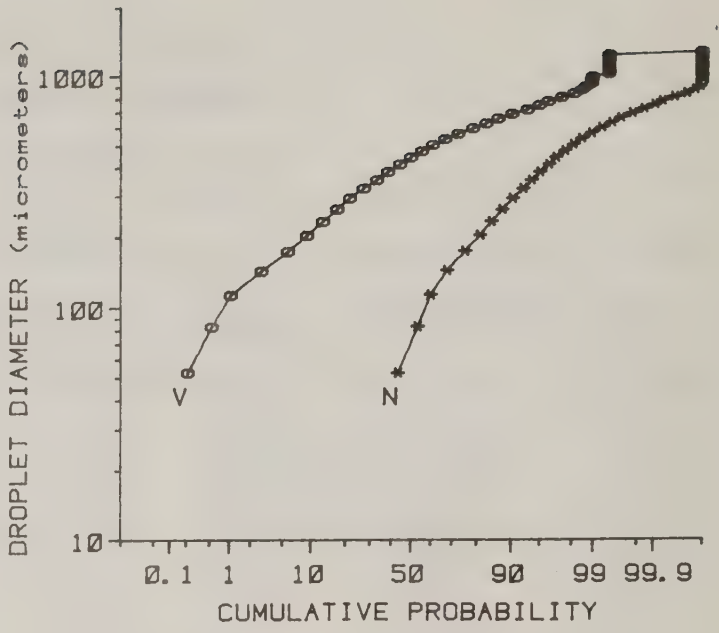
VOLUME MEAN DIAMETER... 237.25 MICROMETERS S.D.... 361.11

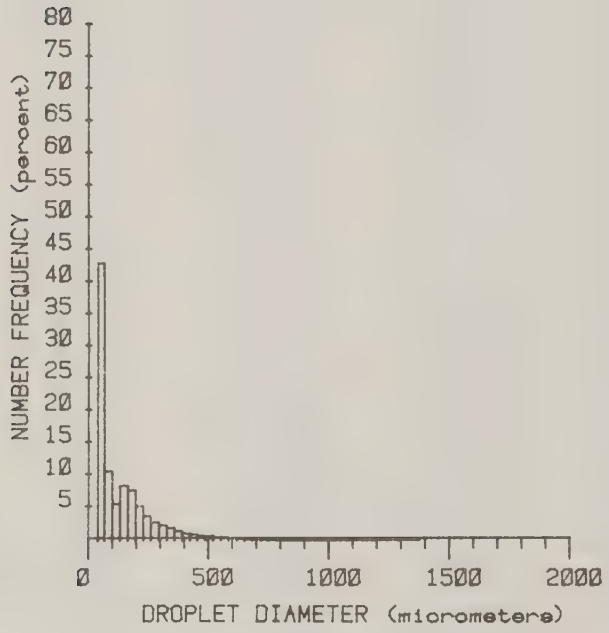
SAUTER MEAN DIAMETER... 385.85 MICROMETERS

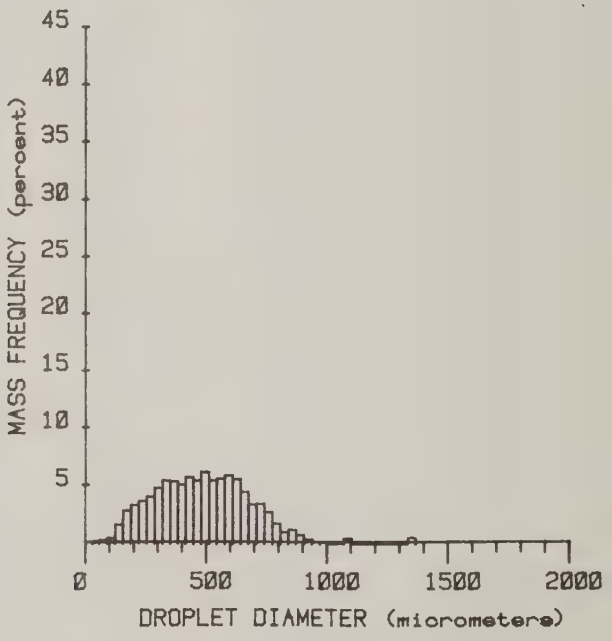
$D_{N0.1}$...	0.00 MICROMETERS	$D_{V0.1}$...	228.26 MICROMETERS
$D_{N0.5}$...	77.26 MICROMETERS	$D_{V0.5}$...	481.72 MICROMETERS R.S.... 1.06
$D_{N0.9}$...	308.37 MICROMETERS	$D_{V0.9}$...	738.14 MICROMETERS

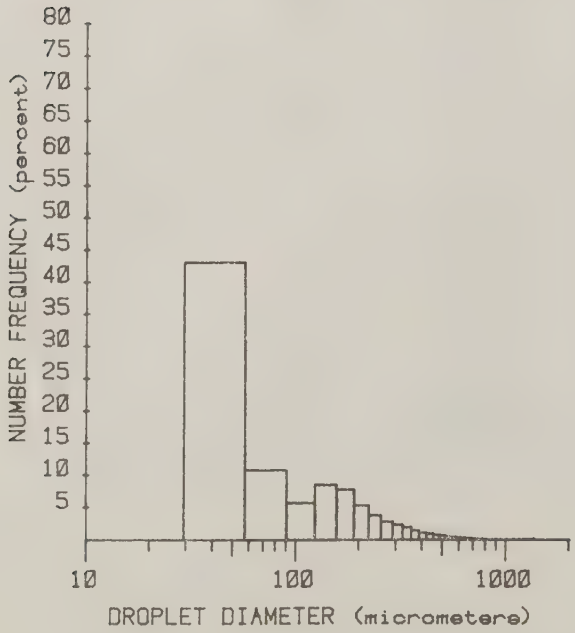
Nozzle Type..... D8-46
Nozzle Angle Rel.
to Airstream..... 0°
Spray Pressure..... 30 PSI
Airspeed..... 50 MPH

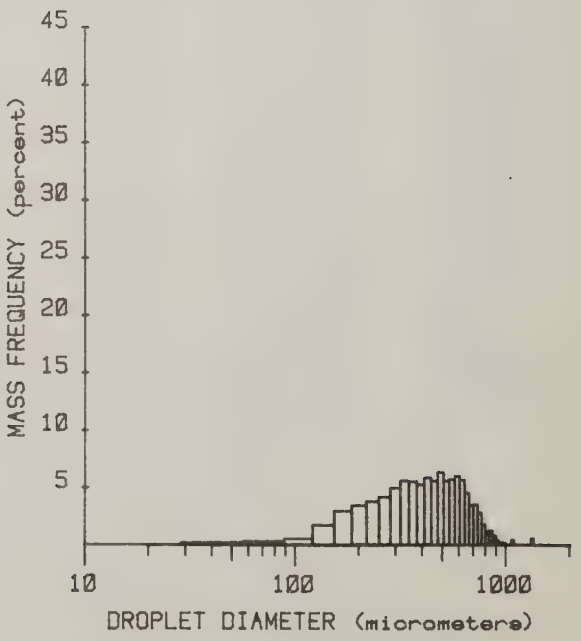
Distance to Probe... 38 cm.
Depth of Field..... 2.0 cm.
Slice Rate..... 1.5 MHz
Date..... 84/09/14
Time..... 15:02:00
File Number..... 11.0.53











D8-46,45 Degrees,50 mph,Garlon

DTG 80/09/00 15:38:00

DFM=2.0--1.5 MHz

UPPER LIMIT	J(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	1409	6.68E 06	0.22	43.79	0.33	43.79	0.33
89	3355	2.18E 06	0.43	14.28	0.65	58.07	0.98
122	3268	1.25E 06	0.76	8.19	1.14	66.26	2.11
154	2734	1.41E 06	1.92	9.21	2.88	75.47	4.99
187	1861	1.03E 06	2.66	6.73	3.98	82.20	8.97
219	1268	673037	2.96	4.44	4.44	86.64	13.41
252	902	469053	3.20	3.07	4.78	89.71	18.19
284	695	353590	3.55	2.32	5.31	92.03	23.50
318	564	263386	3.79	1.73	5.67	93.76	29.17
351	530	241139	4.72	1.58	7.06	95.34	36.23
382	415	184609	4.71	1.21	7.05	96.54	43.28
414	313	137076	4.51	0.90	6.75	97.44	50.03
447	240	91090	3.80	0.60	5.68	98.04	55.71
479	208	73724	3.82	0.48	5.72	98.52	61.43
512	142	51085	3.25	0.33	4.86	98.86	66.29
545	135	50355	3.38	0.33	5.80	99.19	72.09
576	84	27850	2.57	0.18	3.85	99.37	75.94
611	84	25012	2.74	0.16	4.10	99.53	80.05
644	56	16271	2.10	0.11	3.14	99.64	83.18
677	51	19094	2.87	0.13	4.30	99.77	87.48
710	26	11725	2.04	0.08	3.05	99.84	90.53
743	26	10330	2.08	0.07	3.11	99.91	93.64
776	14	4407	1.01	0.03	1.51	99.94	95.15
809	4	1533	0.40	0.01	0.60	99.95	95.75
842	3	1440	0.42	0.01	0.63	99.96	96.38
875	5	2976	0.98	0.02	1.47	99.98	97.85
908	3	1209	0.45	0.01	0.67	99.99	98.52
941	1	600	0.25	0.00	0.37	99.99	98.89
974	1	374	0.17	0.00	0.26	99.99	99.15
1007	1	840	0.43	0.01	0.64	100.00	99.79
1040	1	256	0.14	0.00	0.21	100.00	100.00
1073	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		1.53E 07	66.83				

TOTAL RAW PARTICLES.... 18399/25105-- 73.03%

NUMBER MEAN DIAMETER... 114.93 MICROMETERS S.D.... 103.46

VOLUME MEAN DIAMETER... 203.06 MICROMETERS S.D.... 320.23

SAUTER MEAN DIAMETER... 335.28 MICROMETERS

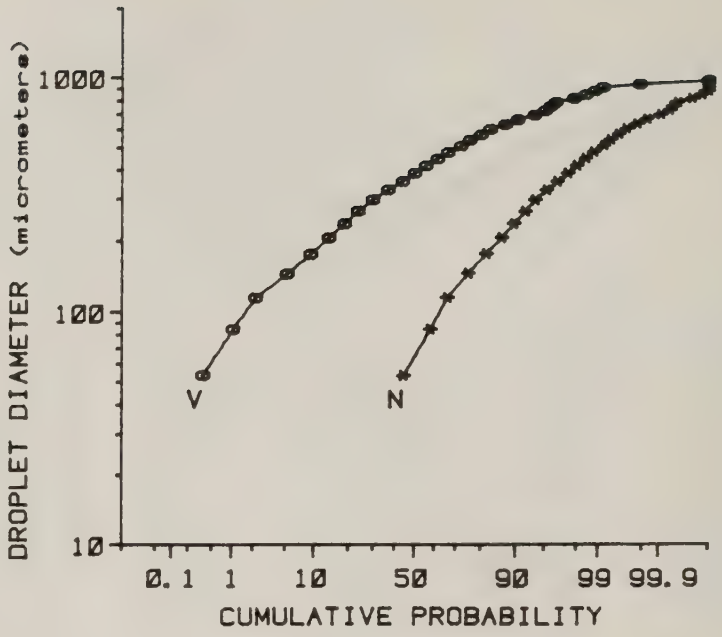
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 194.61 MICROMETERS

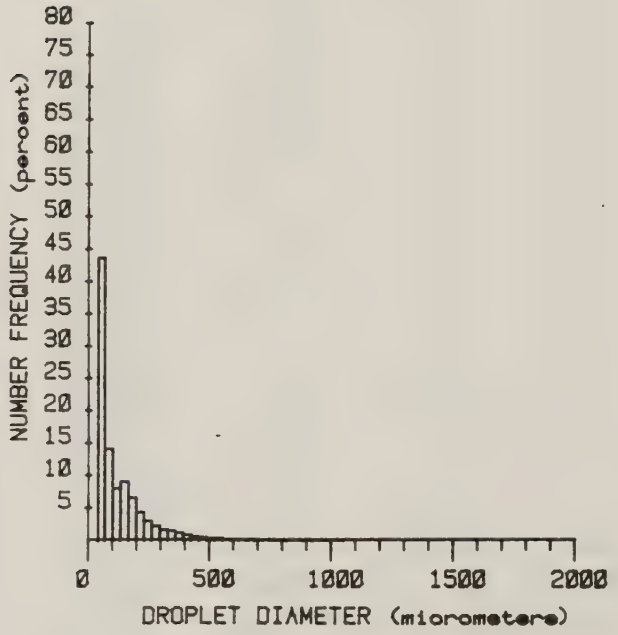
$D_{N0.5}$... 70.62 MICROMETERS $D_{V0.5}$... 414.81 MICROMETERS R.S.... 1.23

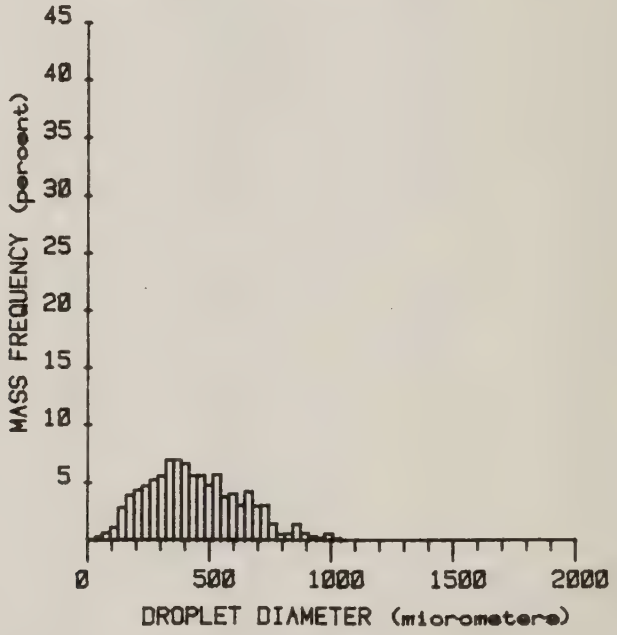
$D_{N0.9}$... 255.89 MICROMETERS $D_{V0.9}$... 703.72 MICROMETERS

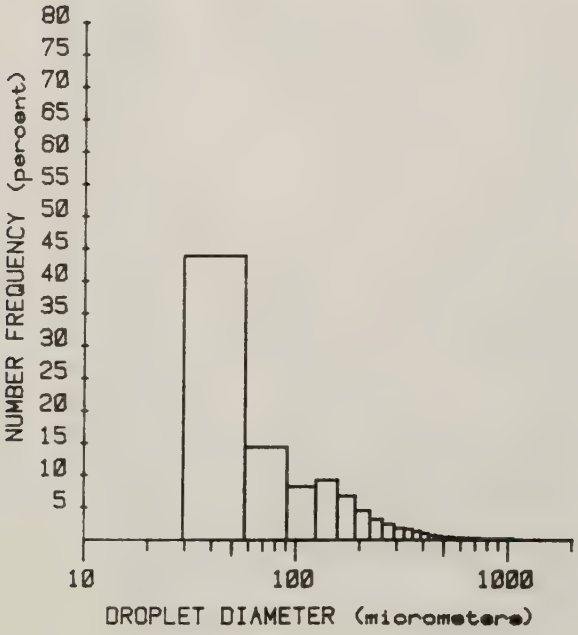
Nozzle Type..... *D8-46*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

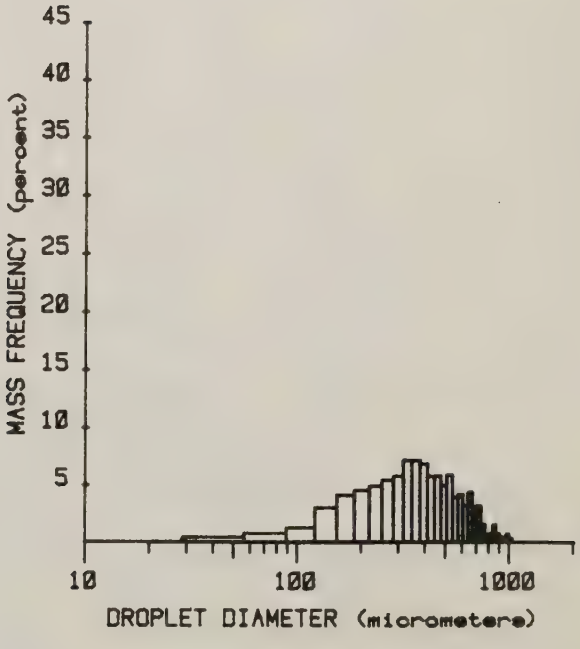
Distance to Probe... *20 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *80/09/00*
Time..... *15:38:00*
File Number..... *11.0.54*











D8-46,90 Degrees,50 mph,Garlon

DTG 84/09/17 14:19:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	1457	8.75E 06	0.29	48.16	0.49	48.16	0.49
89	1617	2.63E 06	0.52	14.50	0.89	62.66	1.39
122	1945	1.47E 06	0.89	8.09	1.52	70.75	2.91
154	1664	1.61E 06	2.20	8.84	3.75	79.59	6.66
187	1011	1.06E 06	2.75	5.85	4.71	85.45	11.37
219	776	656641	2.87	3.61	4.90	89.06	16.28
252	639	449653	3.06	2.48	5.23	91.53	21.51
284	561	363326	3.65	2.00	6.23	93.53	27.74
318	475	277560	3.99	1.53	6.82	95.06	34.56
351	410	234157	4.58	1.29	7.83	96.35	42.38
382	419	185310	4.73	1.02	8.08	97.37	50.47
414	326	122206	4.02	0.67	6.87	98.04	57.34
447	297	93950	3.92	0.52	6.69	98.56	64.03
479	248	84653	4.39	0.47	7.50	99.03	71.53
512	173	50915	3.24	0.28	5.53	99.31	77.06
545	124	51190	3.94	0.28	6.73	99.59	83.79
578	36	24337	2.25	0.13	3.84	99.72	87.63
611	55	18756	2.06	0.10	3.51	99.83	91.14
644	32	12263	1.58	0.07	2.70	99.89	93.84
677	23	6957	1.05	0.04	1.79	99.93	95.63
710	10	5870	1.02	0.03	1.75	99.96	97.37
743	4	1949	0.39	0.01	0.67	99.98	98.04
776	2	1305	0.30	0.01	0.51	99.98	98.55
809	2	2616	0.68	0.01	1.16	100.00	99.71
841	2	575	0.17	0.00	0.29	100.00	100.00
875	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		1.82E 07	58.54				

TOTAL RAW PARTICLES.... 12358/18043-- 68.47%

NUMBER MEAN DIAMETER... 103.95 MICROMETERS S.D.... 97.75

VOLUME MEAN DIAMETER... 183.32 MICROMETERS S.D.... 282.70

SAUTER MEAN DIAMETER... 302.58 MICROMETERS

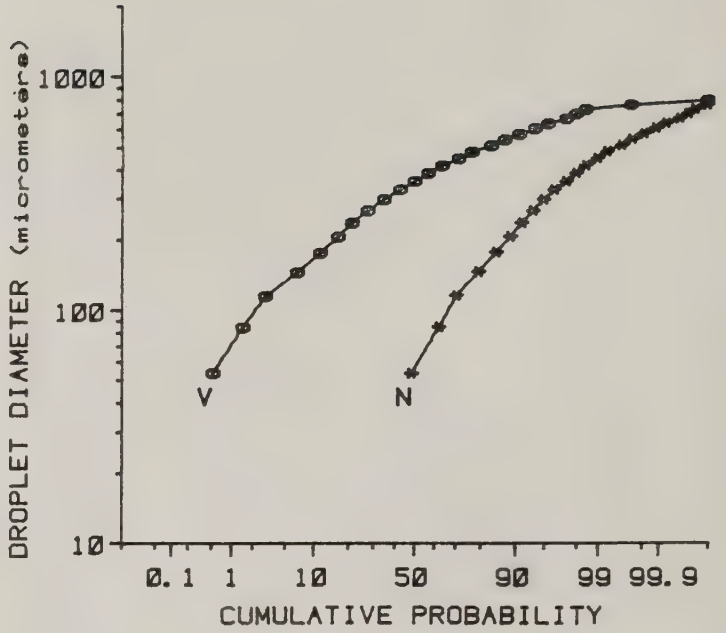
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 177.66 MICROMETERS

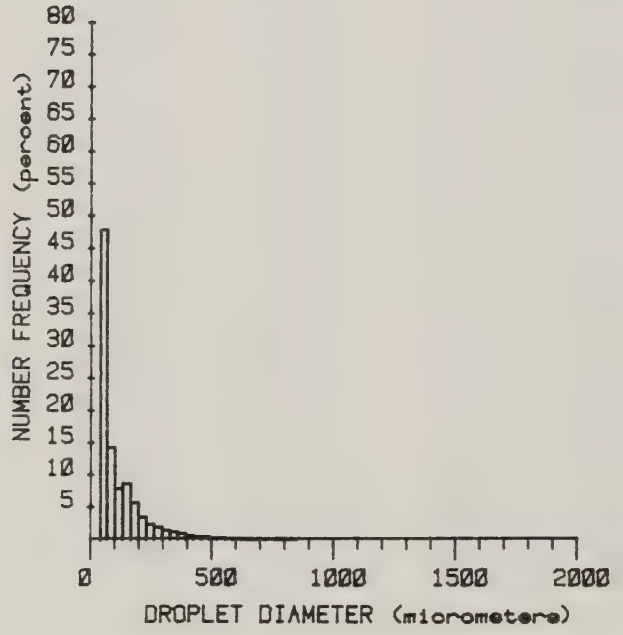
$D_{N0.5}$... 60.46 MICROMETERS $D_{V0.5}$... 382.04 MICROMETERS R.S.... 1.10

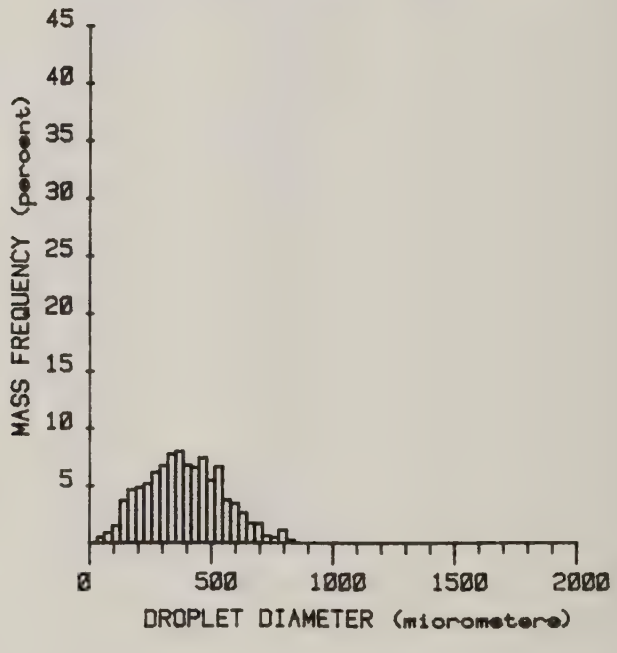
$D_{N0.9}$... 231.99 MICROMETERS $D_{V0.9}$... 599.78 MICROMETERS

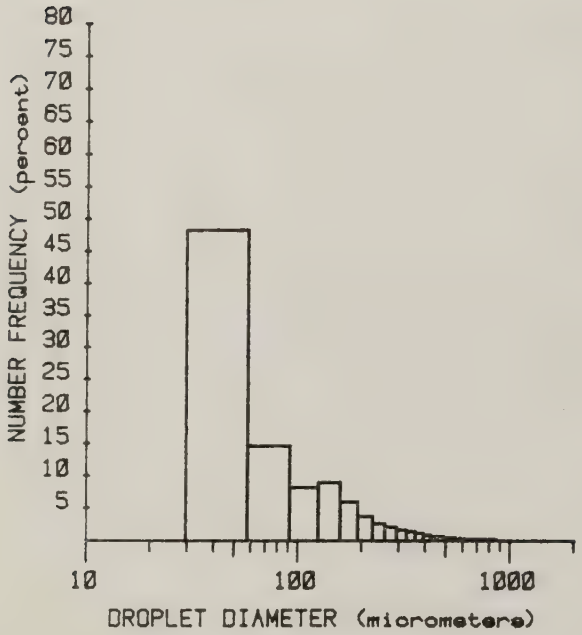
Nozzle Type..... *D8-46*
Nozzle Angle Rel.
to Airstream..... *90°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

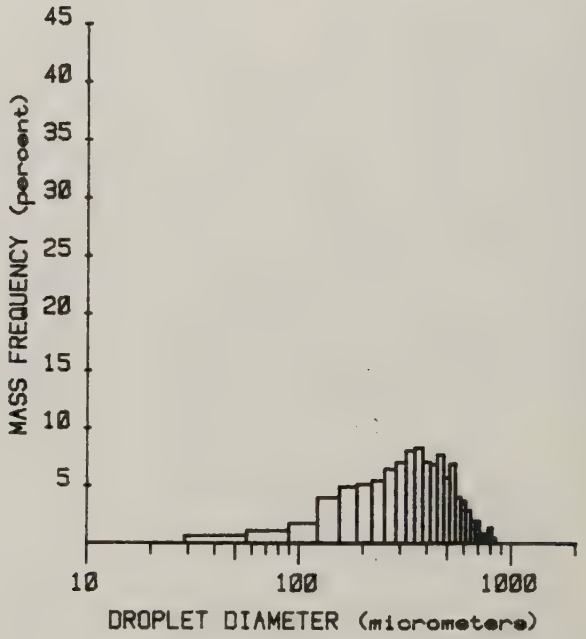
Distance to Probe... *15 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/17*
Time..... *14:19:00*
File Number..... *11.0.58*











D8-46,0 Degrees,50 mph,Roundup

DTG 84/09/18 15:54:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	2073	8.63E 06	0.28	45.87	0.29	45.87	0.29
89	3825	2.32E 06	0.46	12.33	0.47	58.20	0.76
122	3922	1.31E 06	0.80	6.98	0.81	65.17	1.57
154	4195	1.66E 06	2.28	8.84	2.31	74.02	3.87
187	3405	1.35E 06	3.50	7.18	3.55	81.19	7.42
219	2367	897262	3.92	4.77	3.98	85.96	11.41
252	1823	613331	4.18	3.26	4.24	89.22	15.65
284	1522	451528	4.54	2.40	4.60	91.62	20.25
318	1297	327963	4.71	1.74	4.78	93.36	25.03
351	1156	267017	5.22	1.42	5.30	94.78	30.34
382	1099	218031	5.57	1.16	5.65	95.94	35.99
414	976	176821	5.82	0.94	5.91	96.88	41.90
447	819	137653	5.74	0.73	5.82	97.61	47.72
479	619	96926	5.03	0.52	5.10	98.13	52.82
512	533	81617	5.19	0.43	5.27	98.56	58.08
545	456	67670	5.21	0.36	5.29	98.92	63.37
578	315	41943	3.87	0.22	3.93	99.14	67.30
611	271	40638	4.45	0.22	4.52	99.36	71.82
644	203	29634	3.82	0.16	3.88	99.52	75.70
677	139	20260	3.05	0.11	3.09	99.62	78.79
710	125	15901	2.77	0.08	2.81	99.71	81.60
743	95	12187	2.44	0.06	2.48	99.77	84.08
776	58	10015	2.29	0.05	2.32	99.83	86.40
809	38	7571	1.97	0.04	2.00	99.87	88.40
842	40	7115	2.09	0.04	2.12	99.90	90.52
875	28	4710	1.56	0.03	1.58	99.93	92.10
908	26	6249	2.31	0.03	2.35	99.96	94.44
941	11	2134	0.88	0.01	0.89	99.97	95.34
974	6	1263	0.58	0.01	0.59	99.98	95.92
1007	2	309	0.16	0.00	0.16	99.98	96.08
1040	4	596	0.33	0.00	0.34	99.99	96.42
1073	1	148	0.09	0.00	0.09	99.99	96.51
1106	0	0	0.00	0.00	0.00	99.99	96.51
1139	2	496	0.37	0.00	0.37	99.99	96.89
1172	0	0	0.00	0.00	0.00	99.99	96.89
1205	1	580	0.51	0.00	0.52	99.99	97.40
1238	1	575	0.55	0.00	0.56	99.99	97.96
1271	0	0	0.00	0.00	0.00	99.99	97.96
1304	0	0	0.00	0.00	0.00	99.99	97.96
1337	0	0	0.00	0.00	0.00	99.99	97.96
1370	0	0	0.00	0.00	0.00	99.99	97.96
1403	0	0	0.00	0.00	0.00	99.99	97.96
1436	0	0	0.00	0.00	0.00	99.99	97.96
1469	0	0	0.00	0.00	0.00	99.99	97.96
1502	0	0	0.00	0.00	0.00	99.99	97.96
1535	0	0	0.00	0.00	0.00	99.99	97.96
1568	0	0	0.00	0.00	0.00	99.99	97.96
1601	1	968	2.01	0.01	2.04	100.00	100.00
1634	0	0	0.00	0.00	0.00	100.00	100.00

D8-46,0 Degrees,50 mph,Roundup

DTG 84/09/18 15:54:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
TOTALS		1.88E 07	98.53				

TOTAL RAW PARTICLES.... 31454/38168-- 82.41%

NUMBER MEAN DIAMETER... 117.49 MICROMETERS S.D.... 115.57

VOLUME MEAN DIAMETER... 215.53 MICROMETERS S.D.... 371.26

SAUTER MEAN DIAMETER... 368.62 MICROMETERS

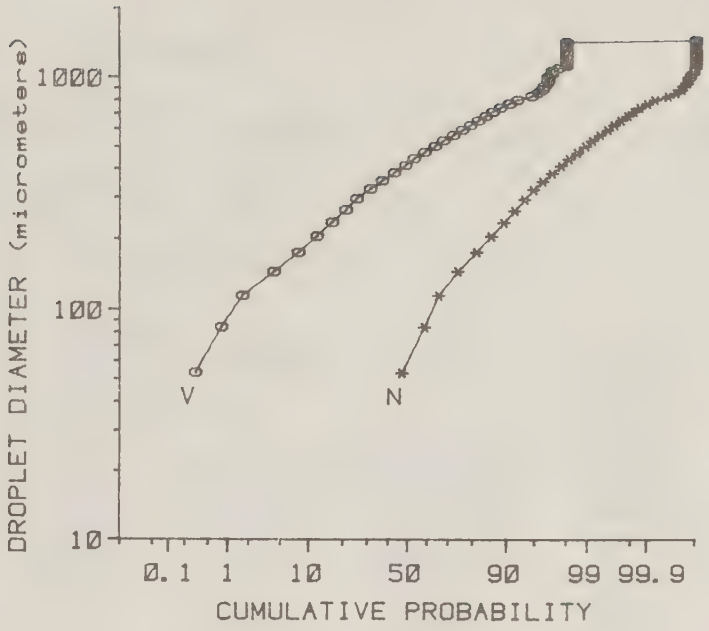
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 208.29 MICROMETERS

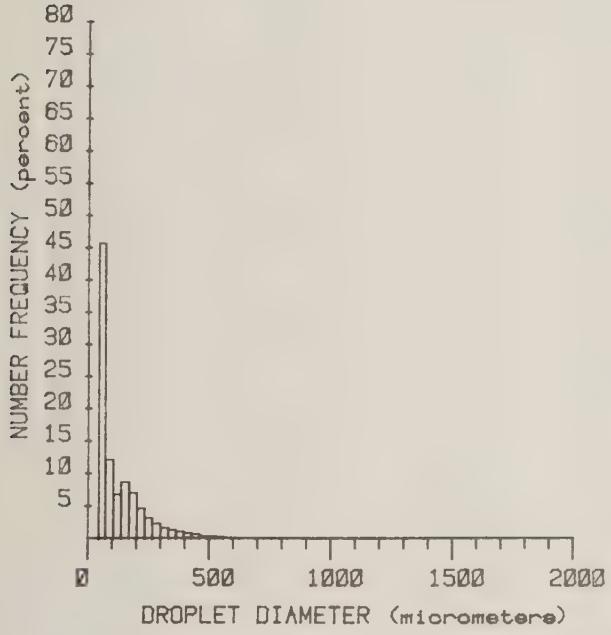
$D_{N0.5}$... 67.32 MICROMETERS $D_{V0.5}$... 461.59 MICROMETERS R.S.... 1.35

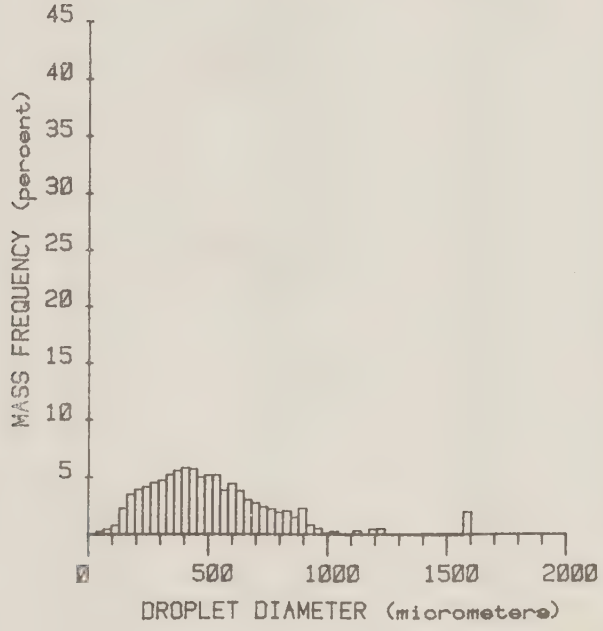
$D_{N0.9}$... 262.52 MICROMETERS $D_{V0.9}$... 833.44 MICROMETERS

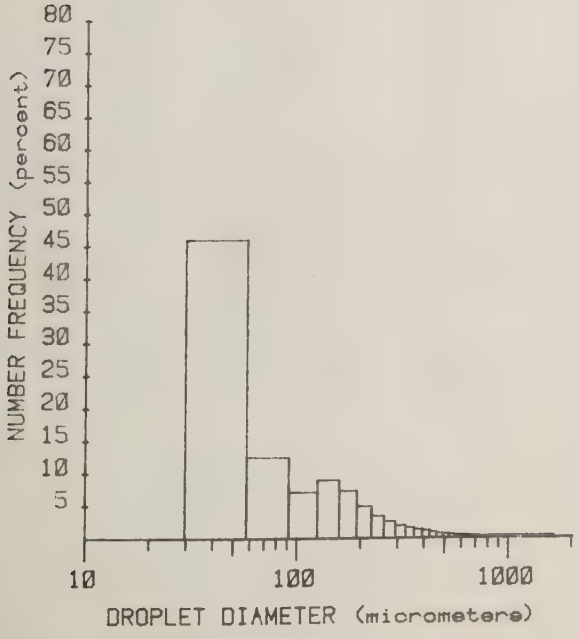
Nozzle Type..... *D8-46*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

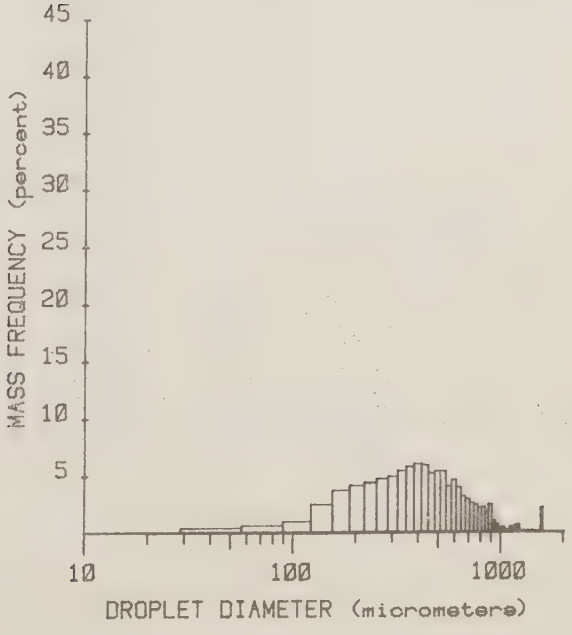
Distance to Probe... *38 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/18*
Time..... *15:54:00*
File Number..... *11.0.68*











D8-46,45 Degrees,50 mph,Roundup

DTG 84/09/18 13:23:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	1867	1.08E 07	0.35	49.63	0.46	49.63	0.46
89	4236	3.19E 06	0.63	14.72	0.82	64.35	1.28
122	5000	1.74E 06	1.06	8.03	1.37	72.39	2.65
154	4751	1.75E 06	2.39	8.08	3.10	80.46	5.74
187	3464	1.21E 06	3.14	5.59	4.06	86.05	9.80
219	2539	307152	3.53	3.72	4.56	89.78	14.36
252	1906	561111	3.82	2.59	4.94	92.36	19.31
284	1563	422822	4.25	1.95	5.49	94.31	24.80
318	1165	283340	4.07	1.31	5.27	95.62	30.07
351	963	231221	4.52	1.07	5.85	96.69	35.92
382	723	163272	4.30	0.73	5.56	97.46	41.48
414	579	138294	4.55	0.64	5.89	98.10	47.36
447	384	87810	3.66	0.41	4.73	98.51	52.10
479	320	74420	3.86	0.34	4.99	98.85	57.09
512	236	51030	3.24	0.24	4.19	99.09	61.28
545	152	41740	3.21	0.19	4.16	99.28	65.44
578	141	31797	2.94	0.15	3.80	99.43	69.24
611	115	25793	2.83	0.12	3.66	99.54	72.89
644	73	23007	3.61	0.13	4.67	99.67	77.56
677	62	13655	2.05	0.06	2.66	99.74	80.22
710	47	18459	3.21	0.09	4.16	99.82	84.37
743	35	7762	1.55	0.04	2.01	99.86	86.38
776	30	7518	1.72	0.03	2.22	99.89	88.61
809	19	8823	2.29	0.04	2.96	99.93	91.57
842	20	4437	1.30	0.02	1.69	99.95	93.26
875	11	1743	0.58	0.01	0.74	99.96	94.00
908	10	2576	0.95	0.01	1.23	99.97	95.23
941	4	436	0.18	0.00	0.23	99.98	95.47
974	6	1891	0.87	0.01	1.12	99.98	96.59
1007	1	488	0.25	0.00	0.32	99.99	96.91
1040	2	514	0.29	0.00	0.37	99.99	97.28
1073	1	525	0.32	0.00	0.42	99.99	97.70
1106	1	395	0.27	0.00	0.35	99.99	98.04
1139	1	767	0.57	0.00	0.73	100.00	98.78
1172	0	0	0.00	0.00	0.00	100.00	98.78
1205	0	0	0.00	0.00	0.00	100.00	98.78
1238	0	0	0.00	0.00	0.00	100.00	98.78
1271	0	0	0.00	0.00	0.00	100.00	98.78
1304	0	0	0.00	0.00	0.00	100.00	98.78
1337	1	737	0.95	0.00	1.22	100.00	100.00
1370	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.17E 07	77.32				

D8-46,45 Degrees,50 mph,Roundup

DTG 84/09/18 13:23:00

DFM=2.0--1.5 MHz

TOTAL RAW PARTICLES.... 30433/40231-- 75.65%

NUMBER MEAN DIAMETER... 101.59 MICROMETERS S.D.... 99.94

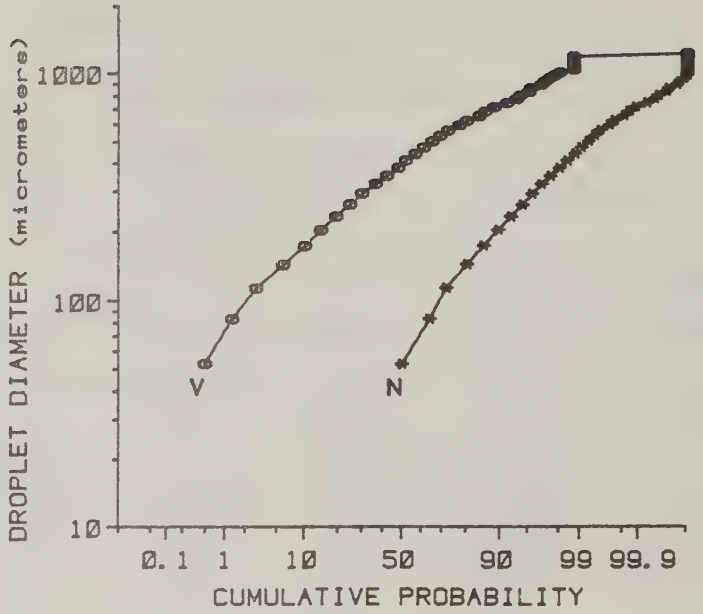
VOLUME MEAN DIAMETER... 189.64 MICROMETERS S.D.... 331.49

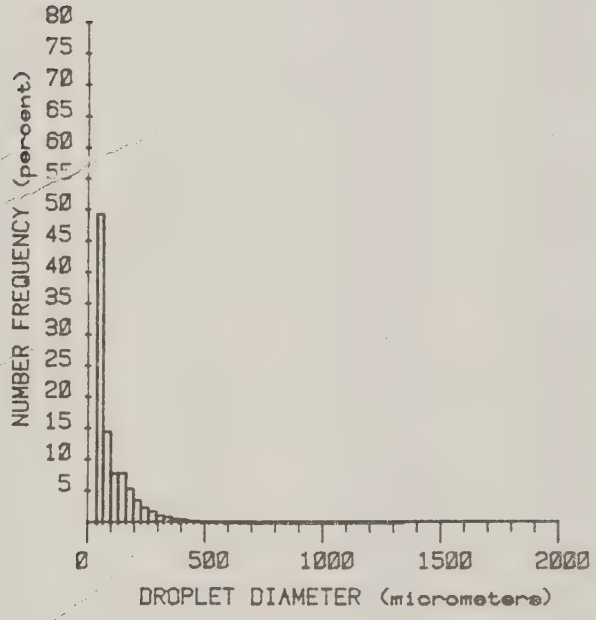
SAUTER MEAN DIAMETER... 335.85 MICROMETERS

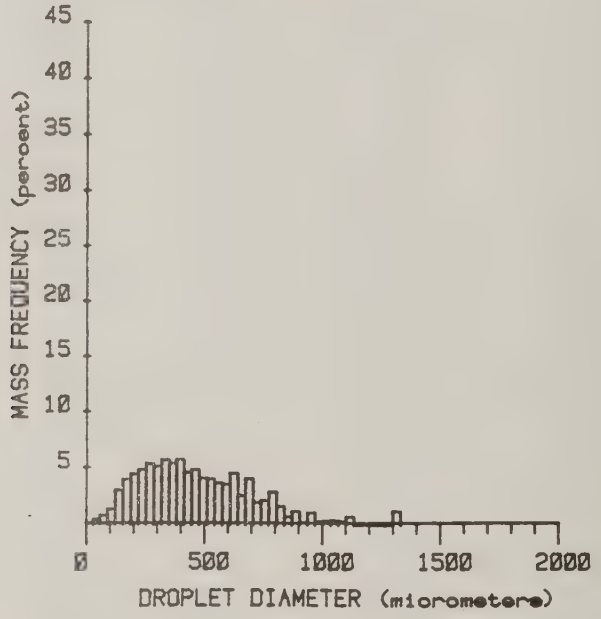
$D_{N0.1}$...	0.00 MICROMETERS	$D_{V0.1}$...	188.39 MICROMETERS	
$D_{N0.5}$...	57.10 MICROMETERS	$D_{V0.5}$...	432.69 MICROMETERS	R.S.... 1.39
$D_{N0.9}$...	222.32 MICROMETERS	$D_{V0.9}$...	791.02 MICROMETERS	

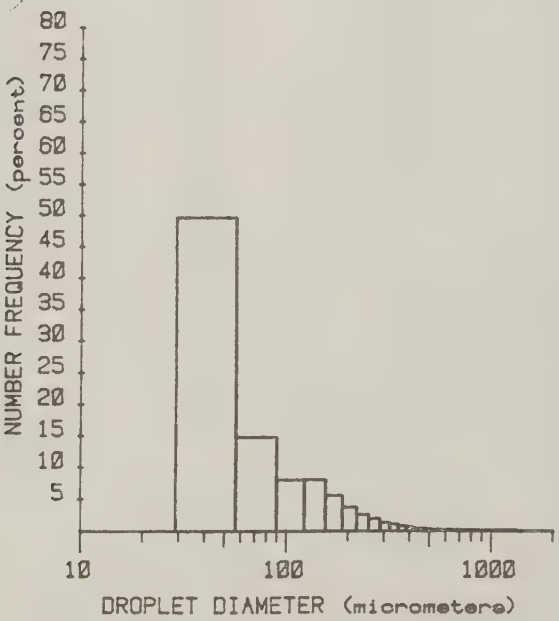
Nozzle Type..... D8-46
Nozzle Angle Rel.
to Airstream..... 45°
Spray Pressure..... 30 PSI
Airspeed..... 50 MPH

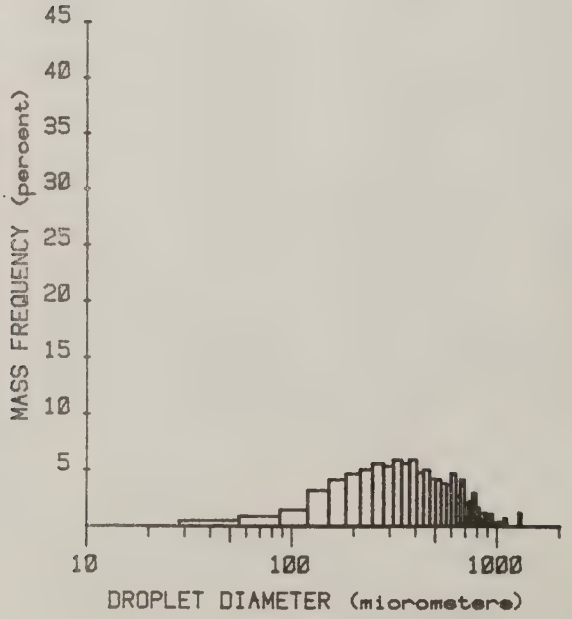
Distance to Probe... 20 cm.
Depth of Field..... 2.0 cm.
Slice Rate..... 1.5 MHz
Date..... 84/09/18
Time..... 13:23:00
File Number..... 11.0.64











D8-46,90 Degrees,50 mph,Roundup

DTG 84/09/18 08:45:00

DF4=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	1327	9.64E 06	0.32	49.47	0.47	49.47	0.47
89	1995	2.79E 06	0.55	14.31	0.83	63.77	1.30
122	2432	1.57E 06	0.95	8.05	1.42	71.83	2.73
154	2105	1.65E 06	2.25	8.46	3.37	80.29	6.09
187	1484	1.17E 06	3.02	5.98	4.51	86.27	10.60
219	1121	668692	2.92	3.43	4.37	89.70	14.97
252	991	539950	3.68	2.77	5.50	92.47	20.47
284	744	336870	3.38	1.73	5.05	94.20	25.52
318	605	255287	3.67	1.31	5.48	95.51	31.00
351	496	194641	3.81	1.00	5.69	96.51	36.69
382	391	153175	3.91	0.79	5.84	97.29	42.53
414	405	120474	3.97	0.62	5.93	97.91	48.46
447	379	104211	4.34	0.53	6.49	98.45	54.95
479	308	66744	3.46	0.34	5.17	98.79	60.12
512	230	60830	3.87	0.31	5.73	99.10	65.80
545	254	48891	3.76	0.25	5.62	99.35	71.52
575	195	35969	3.32	0.18	4.96	99.54	76.43
611	151	24756	2.71	0.13	4.05	99.67	80.53
644	120	22560	2.91	0.12	4.34	99.78	84.83
677	84	9601	1.44	0.05	2.16	99.83	87.03
710	68	9446	1.64	0.05	2.46	99.88	89.49
743	36	8437	1.29	0.03	1.92	99.91	91.41
776	20	5801	1.33	0.03	1.98	99.94	93.40
809	15	3742	0.97	0.02	1.45	99.96	94.85
842	14	2379	0.70	0.01	1.04	99.97	95.89
875	8	2548	0.84	0.01	1.26	99.99	97.15
908	3	195	0.07	0.00	0.11	99.99	97.26
941	2	121	0.05	0.00	0.07	99.99	97.33
974	1	38	0.02	0.00	0.03	99.99	97.36
1007	0	0	0.00	0.00	0.00	99.99	97.36
1040	1	76	0.04	0.00	0.06	99.99	97.42
1073	1	42	0.03	0.00	0.04	99.99	97.46
1106	0	0	0.00	0.00	0.00	99.99	97.46
1139	1	2207	1.63	0.01	2.44	100.00	99.90
1172	0	0	0.00	0.00	0.00	100.00	99.90
1205	1	79	0.07	0.00	0.10	100.00	100.00
1238	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		1.95E 07	66.94				

TOTAL RAW PARTICLES.... 16046/22200-- 72.28%

NUMBER MEAN DIAMETER... 102.01 MICROMETERS S.D.... 99.11

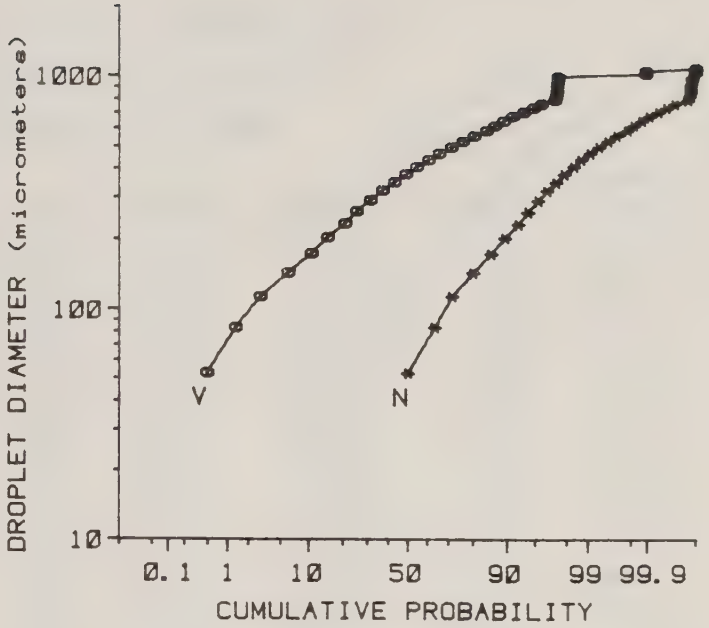
VOLUME MEAN DIAMETER... 187.28 MICROMETERS S.D.... 315.40

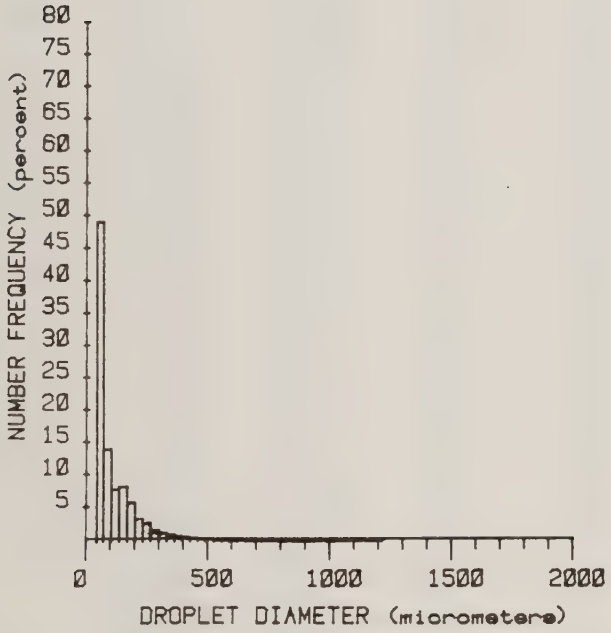
SAUTER MEAN DIAMETER... 324.70 MICROMETERS

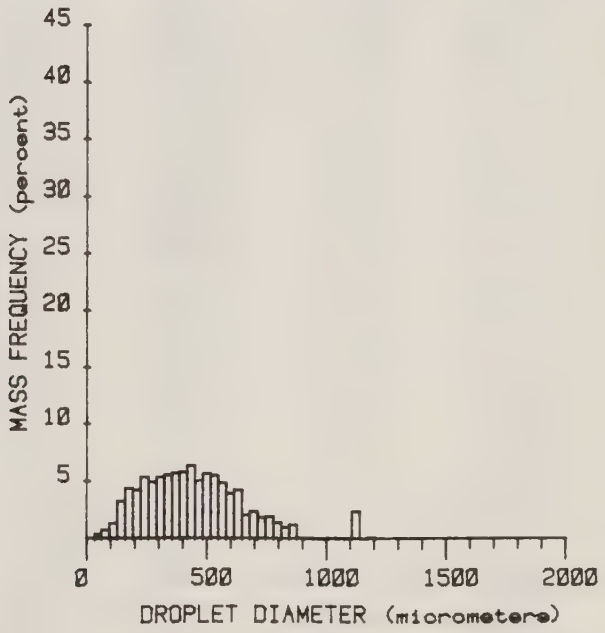
$D_{N0.1}$...	0.00 MICROMETERS	$D_{V0.1}$... 182.87 MICROMETERS	
$D_{N0.5}$...	57.49 MICROMETERS	$D_{V0.5}$... 422.15 MICROMETERS	R.S.... 1.27
$D_{N0.9}$...	223.02 MICROMETERS	$D_{V0.9}$... 718.24 MICROMETERS	

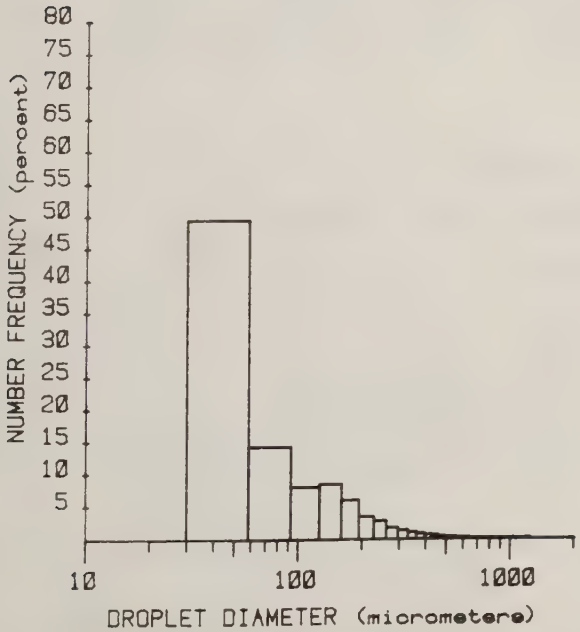
Nozzle Type..... D8-46
Nozzle Angle Rel.
to Airstream..... 90°
Spray Pressure..... 30 PSI
Airspeed..... 50 MPH

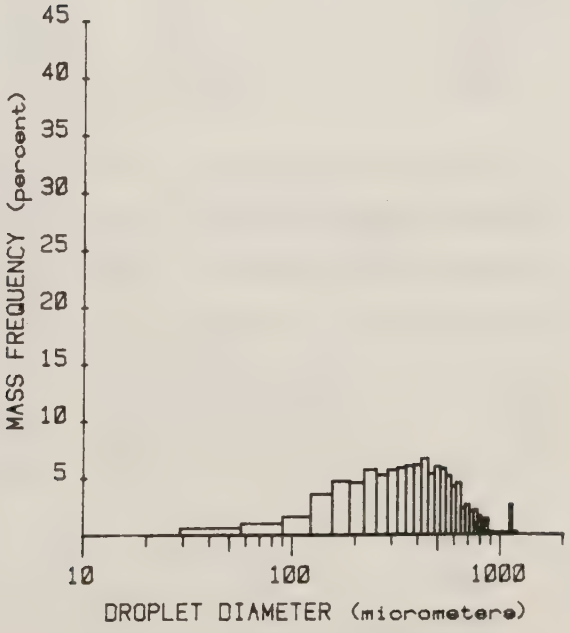
Distance to Probe... 15 cm.
Depth of Field..... 2.0 cm.
Slice Rate..... 1.5 MHz
Date..... 84/09/18
Time..... 08:45:00
File Number..... 11.0.61











D8-46,0 Degrees,40 psi,50 mph, water

DTG 83/04/14 09:49:11

DFM=2.0--2.0 MHz

UPPER LIMIT	N(RAW)	N/SEC	qm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	2480	7.11E 06	0.23	44.71	0.21	44.71	0.21
89	4900	2.28E 06	0.45	14.34	0.40	59.04	0.61
122	4191	1.05E 06	0.64	6.58	0.56	65.62	1.17
154	3848	1.07E 06	1.46	6.70	1.29	72.32	2.46
187	3014	948596	2.46	5.96	2.17	78.29	4.63
219	2228	717337	3.14	4.51	2.77	82.80	7.41
252	1735	550981	3.75	3.46	3.32	86.26	10.73
284	1501	415550	4.17	2.61	3.69	88.87	14.42
318	1336	346889	4.99	2.18	4.41	91.05	18.83
351	1077	268303	5.25	1.69	4.64	92.74	23.47
382	963	250602	6.40	1.58	5.66	94.32	29.13
414	890	164700	5.42	1.04	4.80	95.35	33.93
447	692	153751	6.41	0.97	5.67	96.32	39.60
479	585	147612	7.65	0.93	6.77	97.25	46.37
512	414	96196	6.11	0.60	5.41	97.85	51.78
545	398	79528	6.12	0.50	5.42	98.35	57.19
578	286	52871	4.88	0.33	4.32	98.68	61.51
611	226	50092	5.49	0.31	4.86	99.00	66.37
644	197	38478	4.96	0.24	4.39	99.24	70.76
677	161	35965	5.41	0.23	4.78	99.47	75.54
710	109	18163	3.16	0.11	2.80	99.58	78.34
743	96	12753	2.55	0.08	2.26	99.66	80.59
776	57	4625	1.06	0.03	0.94	99.69	81.53
809	56	9357	2.43	0.06	2.15	99.75	83.68
842	33	12038	3.54	0.08	3.13	99.83	86.81
875	26	3814	1.26	0.02	1.11	99.85	87.92
908	28	7373	2.73	0.05	2.41	99.90	90.33
941	20	4819	1.99	0.03	1.76	99.93	92.09
974	15	2488	1.14	0.02	1.01	99.94	93.10
1007	11	3072	1.56	0.02	1.38	99.96	94.48
1040	3	234	0.13	0.00	0.12	99.96	94.60
1073	6	1643	1.01	0.01	0.90	99.97	95.49
1106	2	202	0.14	0.00	0.12	99.97	95.61
1139	0	0	0.00	0.00	0.00	99.97	95.61
1172	0	0	0.00	0.00	0.00	99.97	95.61
1205	2	433	0.38	0.00	0.34	99.98	95.95
1238	1	539	0.51	0.00	0.45	99.98	96.40
1271	0	0	0.00	0.00	0.00	99.98	96.40
1304	2	292	0.33	0.00	0.29	99.98	96.69
1337	0	0	0.00	0.00	0.00	99.98	96.69
1370	2	2889	3.74	0.02	3.31	100.00	100.00
1403	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		1.59E 07	113.05				

TOTAL RAW PARTICLES.... 31591/37167-- 85.00%

NUMBER MEAN DIAMETER... 126.12 MICROMETERS S.D.... 130.60

VOLUME MEAN DIAMETER... 238.64 MICROMETERS S.D.... 397.59

SAUTER MEAN DIAMETER... 412.31 MICROMETERS

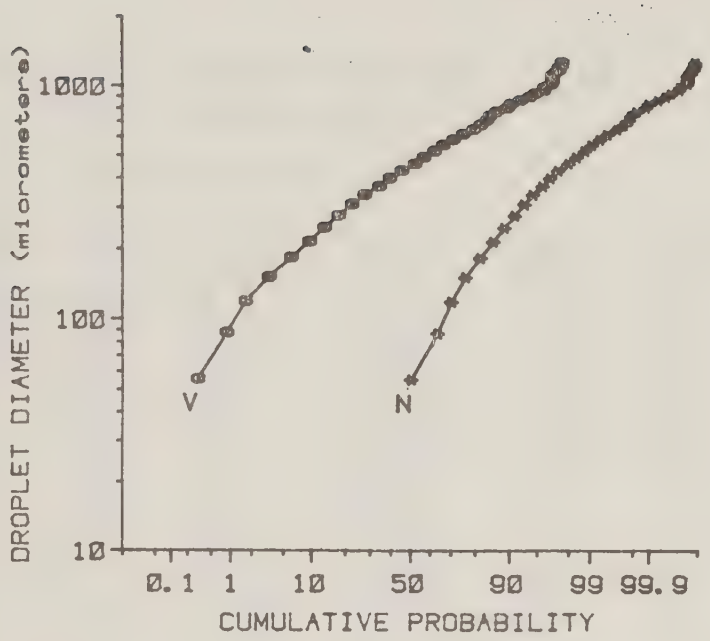
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 245.23 MICROMETERS

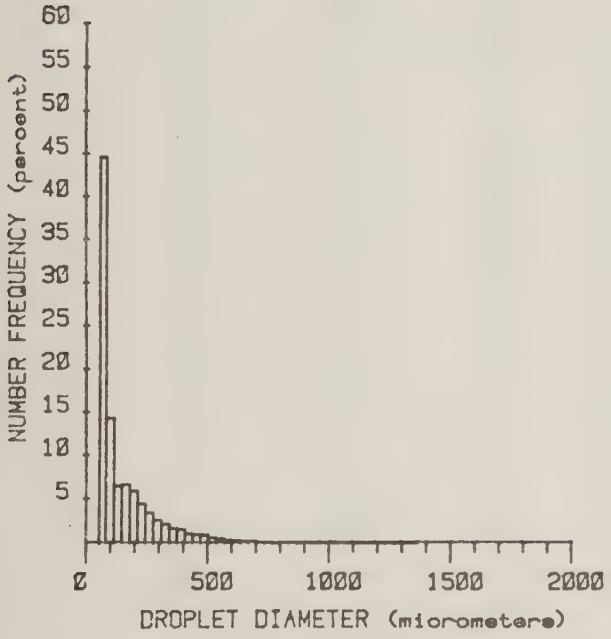
$D_{N0.5}$... 68.45 MICROMETERS $D_{V0.5}$... 501.48 MICROMETERS R.S.... 1.31

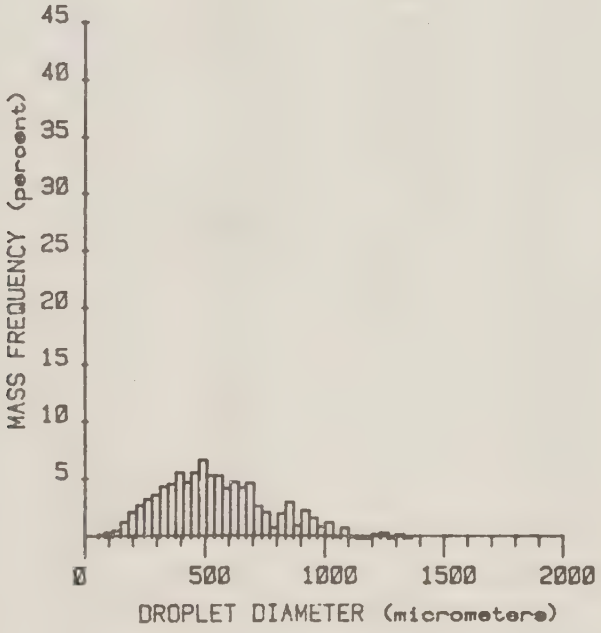
$D_{N0.9}$... 301.34 MICROMETERS $D_{V0.9}$... 902.93 MICROMETERS

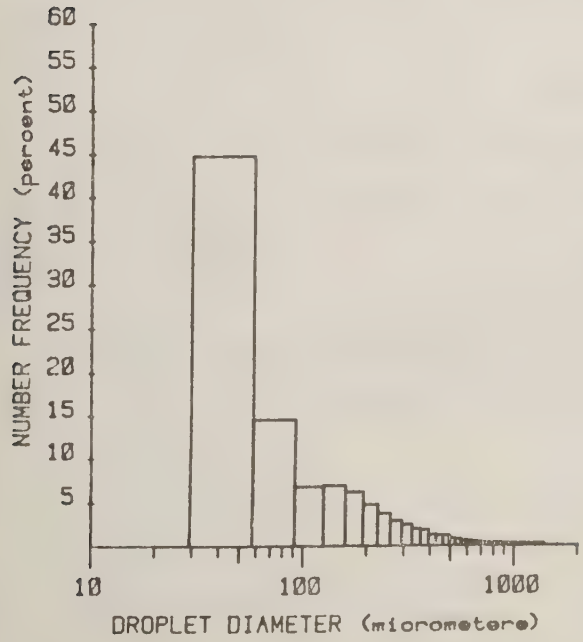
Nozzle Type..... *D8-46*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *40 PSI*
Airspeed..... *50 MPH*

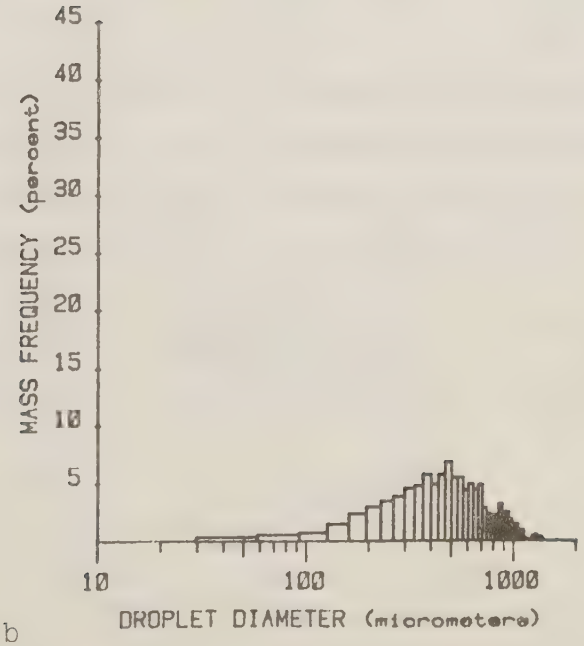
Distance to Probe... *46 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *2.0 MHz*
Date..... *83/04/14*
Time..... *09:49:11*
File Number..... *6.0.48*











D8-46,90 Degrees,40 psi,50 mph, water

DTG 83/05/23 11:09:43

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	4207	1.34E 07	0.44	53.90	0.45	53.90	0.45
89	5413	2.92E 06	0.58	11.77	0.60	65.67	1.05
122	5751	1.53E 06	0.93	6.17	0.96	71.83	2.01
154	5843	2.00E 06	2.74	8.08	2.82	79.91	4.83
187	3604	1.44E 06	3.74	5.82	3.85	85.73	8.68
219	2289	860153	3.76	3.47	3.88	89.20	12.55
252	1903	567581	3.87	2.29	3.98	91.50	16.54
284	1649	489923	4.92	1.98	5.07	93.47	21.61
318	1373	332865	4.78	1.34	4.93	94.82	26.54
351	1113	273481	5.35	1.10	5.51	95.92	32.05
382	918	243515	6.22	0.98	6.41	96.90	38.46
414	814	187746	6.18	0.76	6.37	97.66	44.83
447	700	141595	5.90	0.57	6.08	98.23	50.91
479	582	93143	4.83	0.38	4.98	98.61	55.89
512	450	82513	5.24	0.33	5.40	98.94	61.30
545	422	56617	4.36	0.23	4.49	99.17	65.79
578	379	52700	4.87	0.21	5.02	99.38	70.80
611	331	38335	4.20	0.15	4.33	99.54	75.13
644	252	22817	2.94	0.09	3.03	99.63	78.17
677	197	23406	3.52	0.09	3.63	99.72	81.79
710	184	14870	2.59	0.06	2.67	99.78	84.46
743	144	13637	2.73	0.06	2.81	99.84	87.27
776	101	9368	2.14	0.04	2.21	99.88	89.48
809	76	9977	2.59	0.04	2.67	99.92	92.15
842	49	5878	1.73	0.02	1.78	99.94	93.93
875	33	8478	2.80	0.03	2.89	99.97	96.82
908	22	1990	0.74	0.01	0.76	99.98	97.58
941	27	1246	0.51	0.01	0.53	99.99	98.11
974	9	476	0.22	0.00	0.23	99.99	98.33
1007	12	1331	0.68	0.01	0.70	99.99	99.03
1040	1	19	0.01	0.00	0.01	99.99	99.04
1073	2	301	0.19	0.00	0.19	100.00	99.23
1106	1	623	0.42	0.00	0.43	100.00	99.66
1139	1	11	0.01	0.00	0.01	100.00	99.67
1172	0	0	0.00	0.00	0.00	100.00	99.67
1205	0	0	0.00	0.00	0.00	100.00	99.67
1238	1	335	0.32	0.00	0.33	100.00	100.00
1271	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.48E 07	97.03				

TOTAL RAW PARTICLES.... 38853/47850-- 81.20%

NUMBER MEAN DIAMETER... 102.10 MICROMETERS S.D.... 105.11

VOLUME MEAN DIAMETER... 195.64 MICROMETERS S.D.... 328.26

SAUTER MEAN DIAMETER... 348.73 MICROMETERS

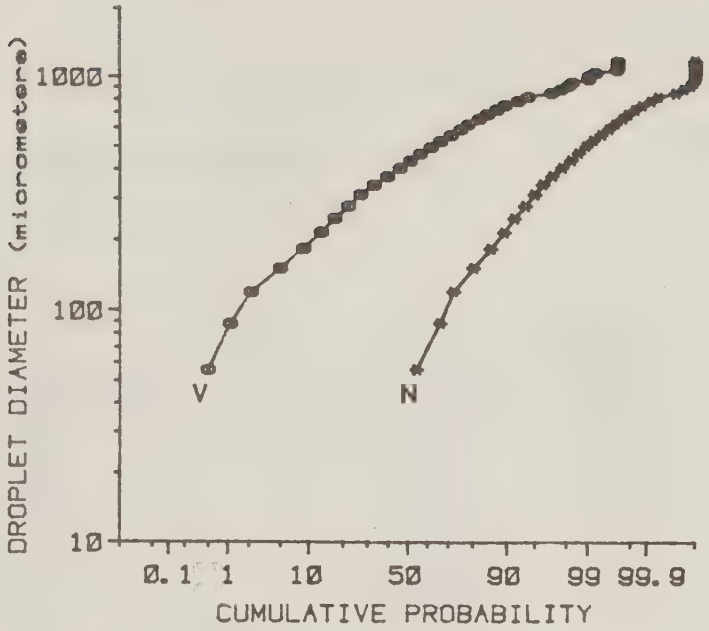
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 198.20 MICROMETERS

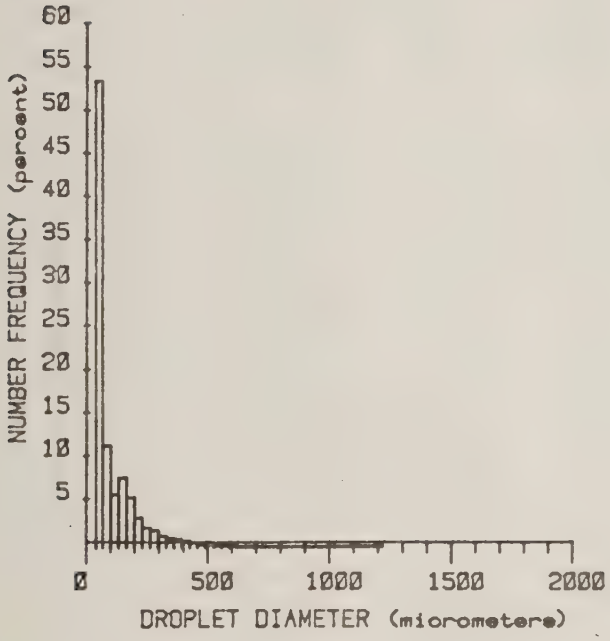
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$... 442.35 MICROMETERS R.S.... 1.32

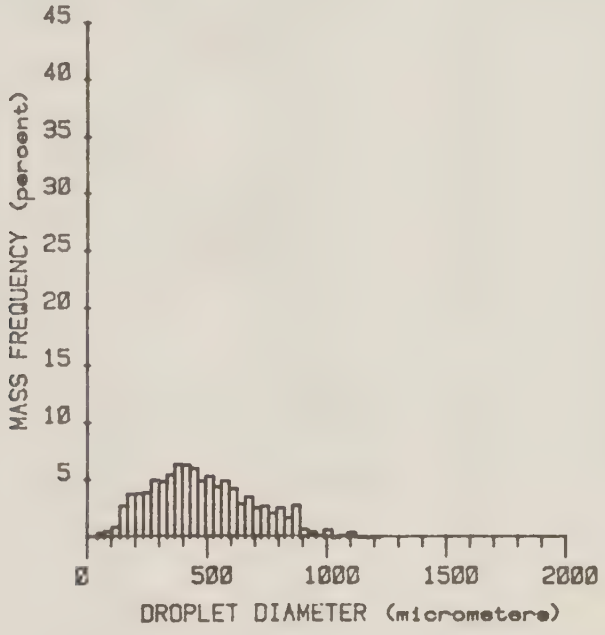
$D_{N0.9}$... 230.90 MICROMETERS $D_{V0.9}$... 781.92 MICROMETERS

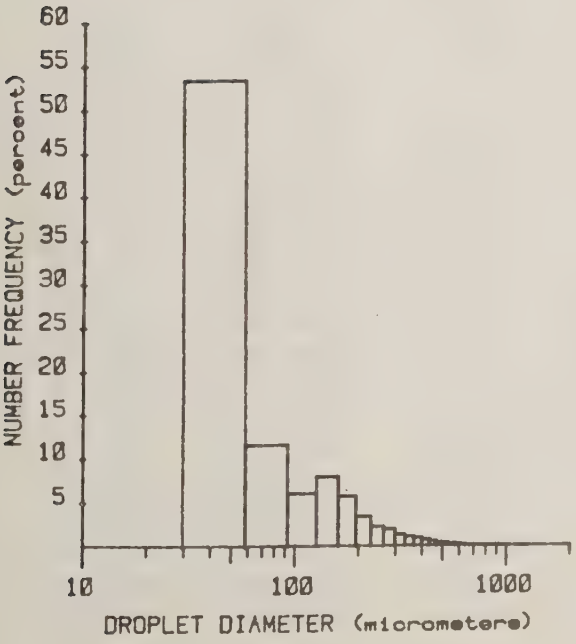
Nozzle Type..... *D8-46*
Nozzle Angle Rel.
to Airstream..... *90°*
Spray Pressure..... *40 PSI*
Airspeed..... *50 MPH*

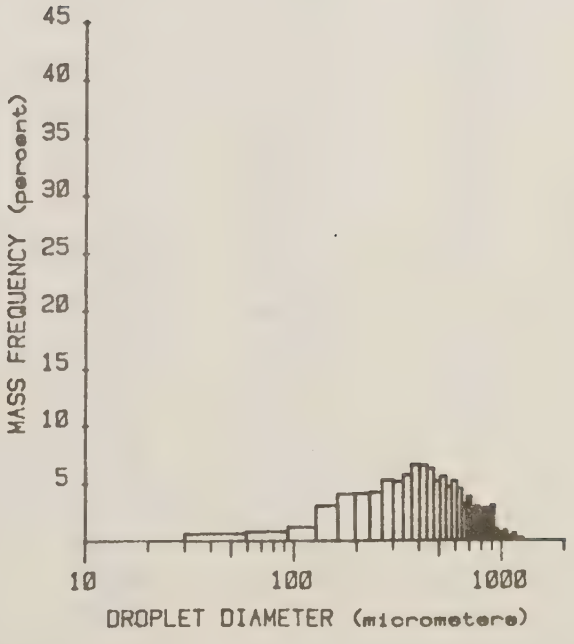
Distance to Probe... *17 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *83/05/23*
Time..... *11:09:43*
File Number..... *6.1.43*











RD-7,0 Degrees,50 mph,Esteron 99

DTG 84/09/14 09:45:00

DFM1=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	452	1.45E 06	0.05	30.78	0.03	30.78	0.03
89	1500	669942	0.13	14.22	0.09	45.00	0.12
122	2298	393441	0.24	8.35	0.16	53.35	0.28
154	2299	460405	0.63	9.77	0.42	63.12	0.71
187	1655	355139	0.92	7.54	0.62	70.65	1.33
219	1003	239199	1.05	5.08	0.70	75.73	2.03
252	621	148170	1.01	3.14	0.68	78.87	2.71
284	505	127846	1.28	2.71	0.86	81.58	3.58
318	448	114108	1.64	2.42	1.10	84.01	4.68
351	311	81348	1.59	1.73	1.07	85.73	5.75
382	316	78909	2.01	1.67	1.36	87.41	7.11
414	292	65780	2.17	1.40	1.46	88.80	8.57
447	273	64718	2.70	1.37	1.82	90.17	10.38
479	239	55937	2.90	1.19	1.95	91.36	12.34
512	216	49122	3.12	1.04	2.10	92.40	14.44
545	164	42116	3.24	0.89	2.18	93.30	16.62
578	135	29724	2.74	0.63	1.85	93.93	18.47
611	147	29723	3.26	0.63	2.19	94.56	20.67
644	108	24900	3.21	0.53	2.16	95.09	22.83
677	105	22639	3.40	0.48	2.29	95.57	25.12
710	92	19616	3.41	0.42	2.30	95.98	27.42
743	89	18779	3.76	0.40	2.53	96.38	29.95
776	77	17147	3.92	0.36	2.64	96.75	32.59
809	78	16859	4.38	0.36	2.95	97.10	35.54
842	58	13241	3.89	0.28	2.62	97.38	38.16
875	58	12123	4.00	0.26	2.70	97.64	40.86
908	46	17746	6.56	0.38	4.42	98.02	45.23
941	45	9361	3.86	0.20	2.60	98.22	47.88
974	48	10962	5.02	0.23	3.38	98.45	51.27
1007	39	10333	5.24	0.22	3.53	98.67	54.80
1040	22	6765	3.79	0.14	2.55	98.81	57.35
1073	30	7039	4.34	0.15	2.92	98.96	60.27
1106	19	4797	3.24	0.10	2.13	99.06	62.45
1139	23	6090	4.50	0.13	3.03	99.19	65.48
1172	17	4102	3.31	0.09	2.23	99.23	67.71
1205	12	3319	2.91	0.07	1.96	99.35	69.67
1238	18	5392	5.13	0.11	3.46	99.46	73.13
1271	12	3295	3.40	0.07	2.29	99.53	75.41
1304	7	2222	2.48	0.05	1.67	99.58	77.08
1337	8	2590	3.12	0.05	2.10	99.64	79.18
1370	6	2955	3.83	0.06	2.53	99.70	81.76
1403	5	1379	1.92	0.03	1.29	99.73	83.05
1436	3	949	1.42	0.02	0.96	99.75	84.01
1469	5	2323	3.72	0.05	2.50	99.80	86.51
1502	6	2787	4.77	0.06	3.21	99.86	89.73
1535	3	1109	2.03	0.02	1.37	99.88	91.09
1568	5	3275	6.39	0.07	4.30	99.95	95.40
1601	1	476	0.99	0.01	0.67	99.96	96.06
1634	0	0	0.00	0.00	0.00	99.96	96.06

RD-7,0 Degrees,50 mph,Esteron 99

DTG 84/09/14 09:45:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	0	0	0.00	0.00	0.00	99.96	96.06
1700	0	0	0.00	0.00	0.00	99.96	96.06
1733	0	0	0.00	0.00	0.00	99.96	96.06
1766	1	714	2.00	0.02	1.35	99.98	97.41
1799	0	0	0.00	0.00	0.00	99.98	97.41
1832	0	0	0.00	0.00	0.00	99.98	97.41
1865	1	1166	3.85	0.02	2.59	100.00	100.00
1898	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		4.71E 06	148.48				

TOTAL RAW PARTICLES.... 13921/16284-- 85.49%

NUMBER MEAN DIAMETER... 184.36 MICROMETERS S.D.... 217.30

VOLUME MEAN DIAMETER... 392.00 MICROMETERS S.D.... 656.74

SAUTER MEAN DIAMETER... 741.73 MICROMETERS

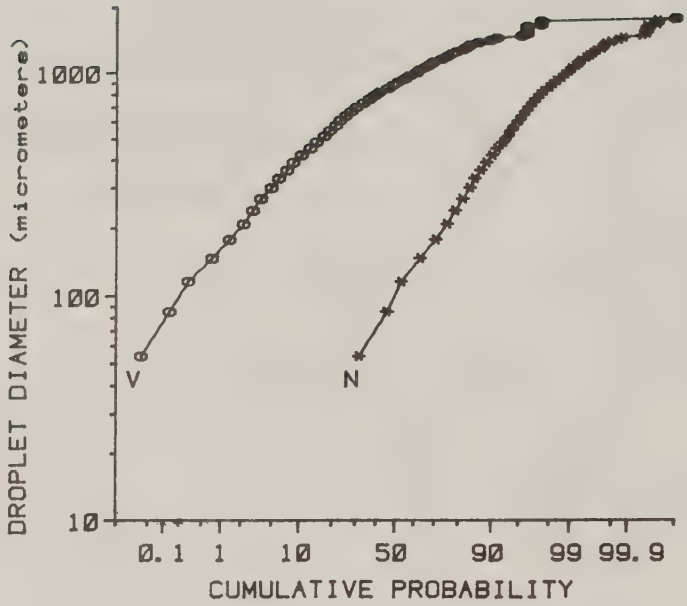
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 440.34 MICROMETERS

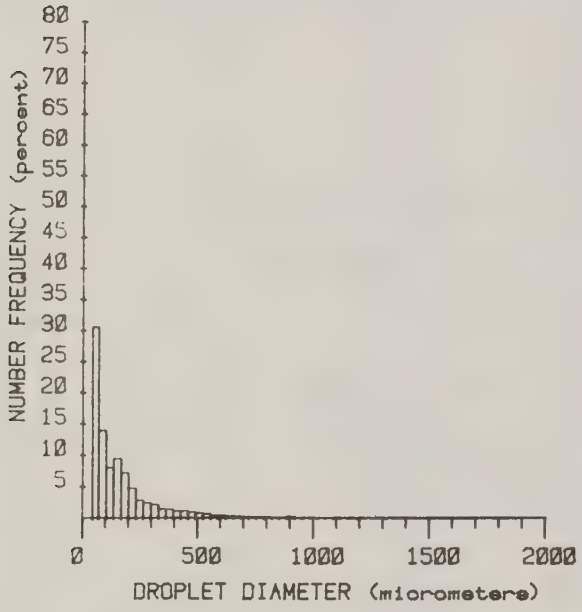
$D_{N0.5}$... 103.70 MICROMETERS $D_{V0.5}$... 961.15 MICROMETERS R.S.... 1.11

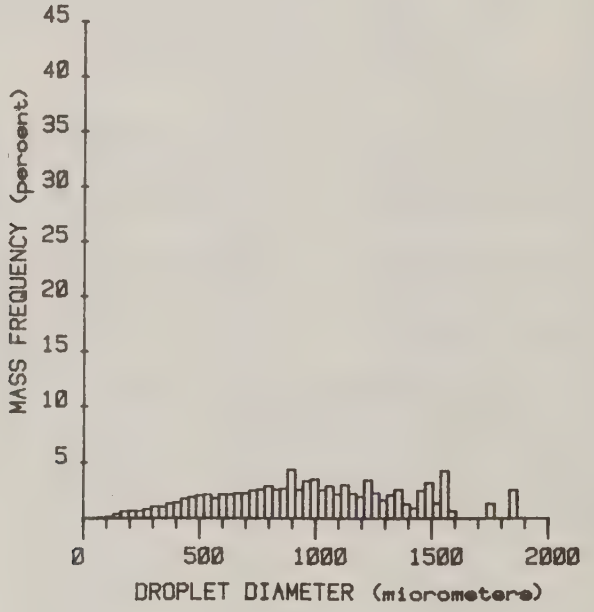
$D_{N0.9}$... 443.12 MICROMETERS $D_{V0.9}$...1508.11 MICROMETERS

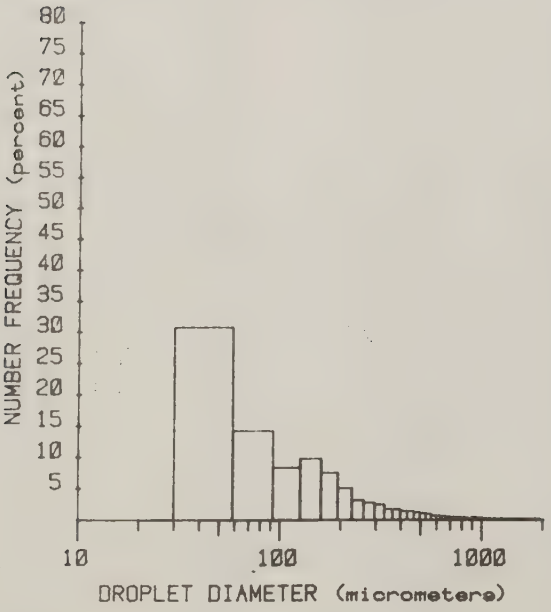
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

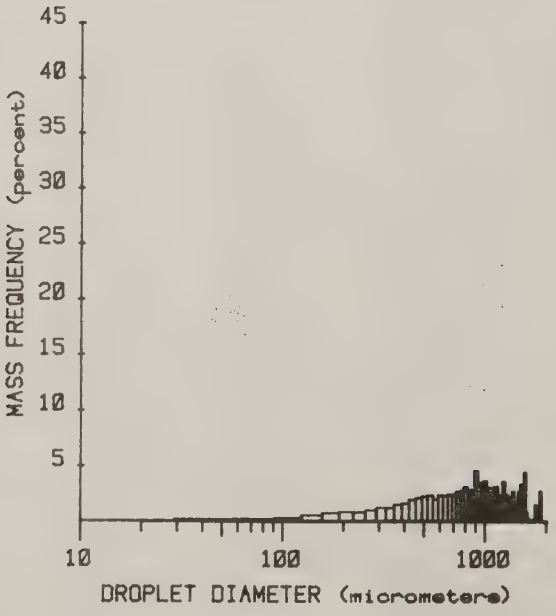
Distance to Probe... *38 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/14*
Time..... *09:45:00*
File Number..... *11.0.49*











RD-7,45 Degrees,50 mph,Esteron 99

DTG 84/09/05 12:11:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	991	3.21E 06	0.11	40.61	0.06	40.61	0.06
89	1993	753574	0.15	9.54	0.09	50.15	0.15
122	2290	754490	0.46	9.55	0.26	59.70	0.41
154	2165	733697	1.00	9.29	0.57	68.98	0.98
187	1418	519253	1.34	6.57	0.76	75.55	1.74
219	888	372080	1.63	4.71	0.92	80.26	2.67
252	582	253462	1.73	3.21	0.98	83.47	3.65
284	435	193706	1.95	2.45	1.11	85.92	4.75
318	346	156450	2.25	1.98	1.28	87.91	6.03
351	291	140182	2.74	1.77	1.56	89.68	7.59
382	232	119442	3.05	1.51	1.73	91.19	9.32
414	196	95397	3.14	1.21	1.79	92.40	11.11
447	167	35492	3.56	1.08	2.03	93.48	13.14
479	116	57602	2.99	0.73	1.70	94.21	14.83
512	79	37911	2.41	0.48	1.37	94.69	16.20
545	90	45005	3.46	0.57	1.97	95.26	18.17
573	71	30409	2.81	0.38	1.60	95.64	19.77
611	55	30778	3.37	0.39	1.92	96.03	21.69
644	67	38363	4.95	0.49	2.81	96.52	24.50
677	50	27728	4.17	0.35	2.37	96.87	26.87
710	42	22714	3.95	0.29	2.25	97.16	29.12
743	46	28953	5.79	0.37	3.29	97.52	32.41
776	39	15471	3.54	0.20	2.01	97.72	34.42
809	29	16218	4.21	0.21	2.40	97.93	36.82
842	31	16778	4.93	0.21	2.80	98.14	39.62
875	39	18251	6.03	0.23	3.43	98.37	43.05
908	23	12808	4.74	0.16	2.69	98.53	45.74
941	35	16945	6.99	0.21	3.97	98.75	49.71
974	24	11473	5.26	0.15	2.99	98.89	52.70
1007	15	9959	5.05	0.13	2.87	99.02	55.58
1040	21	10450	5.85	0.13	3.33	99.15	58.90
1073	6	6612	4.07	0.08	2.31	99.23	61.22
1106	18	11907	8.04	0.15	4.57	99.38	65.79
1139	9	6374	4.71	0.08	2.68	99.46	68.47
1172	9	3376	2.72	0.04	1.55	99.51	70.01
1205	10	6861	6.02	0.09	3.42	99.59	73.43
1238	5	3655	3.48	0.05	1.98	99.64	75.41
1271	3	2274	2.35	0.03	1.33	99.67	76.74
1304	2	801	0.89	0.01	0.51	99.68	77.25
1337	3	3478	4.18	0.04	2.38	99.72	79.63
1370	3	2643	3.42	0.03	1.95	99.76	81.58
1403	4	5945	8.28	0.08	4.71	99.83	86.28
1436	3	2853	4.26	0.04	2.42	99.87	88.71
1469	2	2062	3.30	0.03	1.38	99.89	90.58
1502	0	0	0.00	0.00	0.00	99.89	90.58
1535	2	3286	6.01	0.04	3.42	99.94	94.00
1568	0	0	0.00	0.00	0.00	99.94	94.00
1601	1	5076	10.55	0.06	6.00	100.00	100.00
1634	0	0	0.00	0.00	0.00	100.00	100.00

RD-7,45 Degrees,50 mph,Esteron 99

DTG 84/09/05 12:11:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
TOTALS		7.90E 06	175.91				

TOTAL RAW PARTICLES.... 12949/15672-- 82.63%

NUMBER MEAN DIAMETER... 155.80 MICROMETERS S.D.... 191.32

VOLUME MEAN DIAMETER... 349.18 MICROMETERS S.D.... 609.04

SAUTER MEAN DIAMETER... 699.34 MICROMETERS

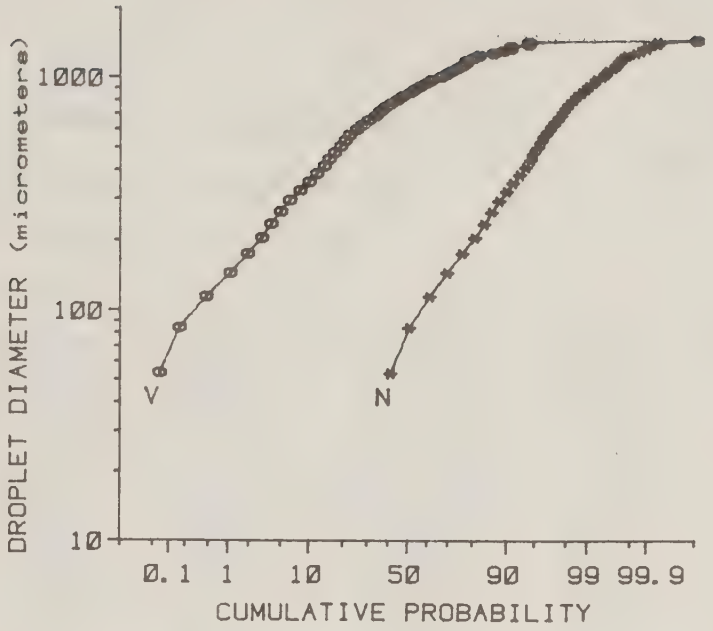
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 394.46 MICROMETERS

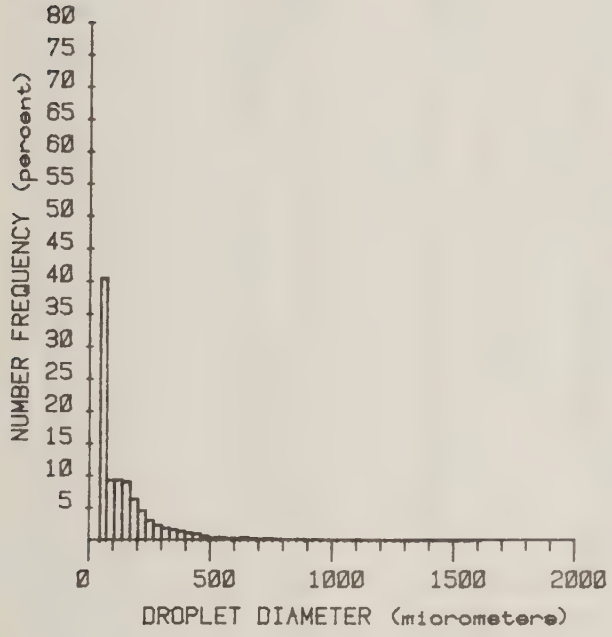
$D_{N0.5}$... 88.76 MICROMETERS $D_{V0.5}$... 943.66 MICROMETERS R.S.... 1.13

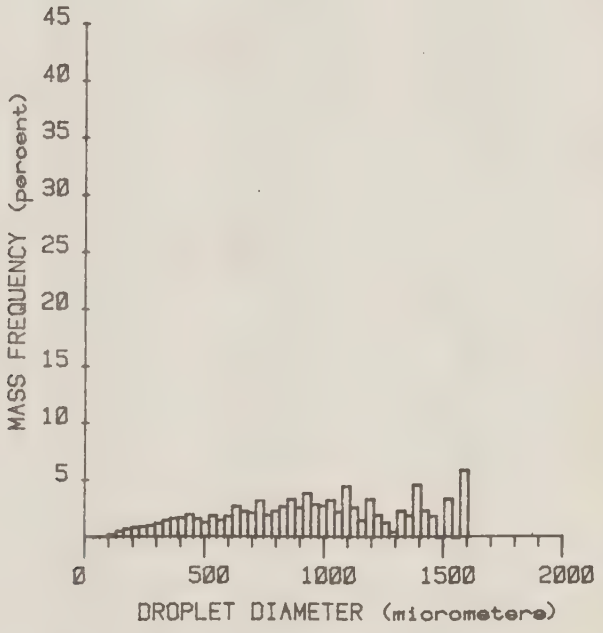
$D_{N0.9}$... 357.94 MICROMETERS $D_{V0.9}$...1458.24 MICROMETERS

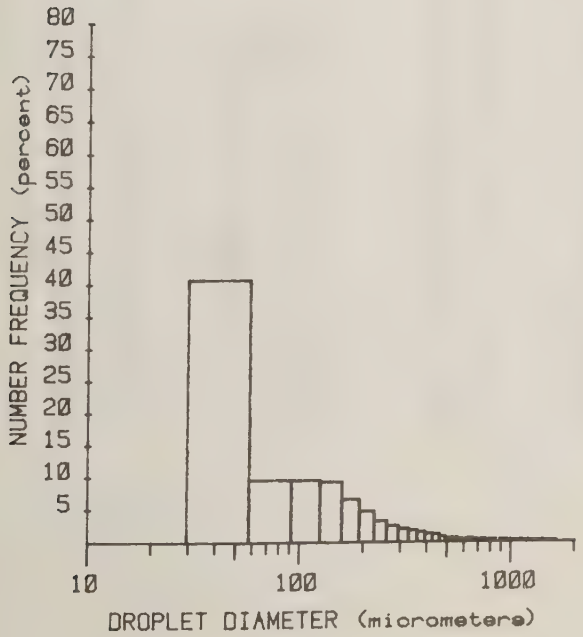
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

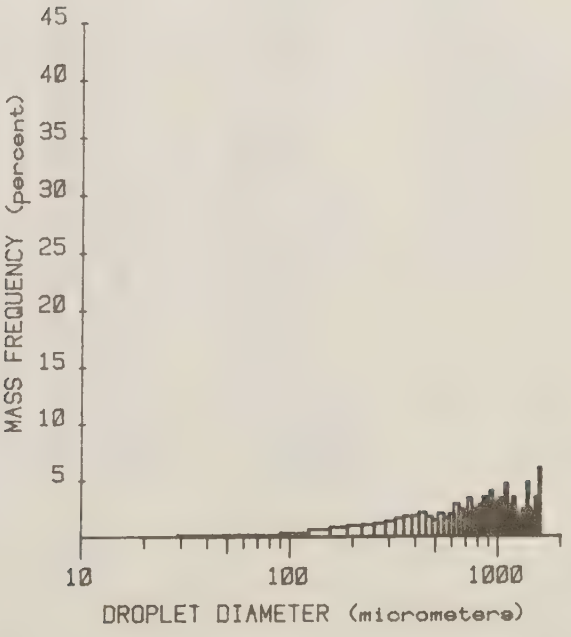
Distance to Probe... *25 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/05*
Time..... *12:11:00*
File Number..... *11.0.45*











RD-7,90 Degrees,50 mph,Esteron 99

DTG 84/09/05 10:21:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	1103	6.00E 06	0.20	47.28	0.13	47.28	0.13
89	1949	1.37E 06	0.27	10.79	0.18	58.07	0.31
122	1907	1.22E 06	0.74	9.61	0.50	67.68	0.81
154	1751	1.17E 06	1.61	9.24	1.07	76.92	1.88
187	1065	725803	1.88	5.72	1.26	82.64	3.14
219	651	482816	2.11	3.80	1.41	86.44	4.55
252	453	345523	2.35	2.72	1.57	89.16	6.12
284	293	225183	2.26	1.77	1.51	90.93	7.63
318	216	164402	2.36	1.29	1.58	92.23	9.21
351	173	137471	2.69	1.08	1.80	93.31	11.01
382	131	102710	2.62	0.81	1.75	94.12	12.76
414	126	109672	3.61	0.86	2.41	94.98	15.18
447	102	78444	3.27	0.62	2.18	95.60	17.36
479	87	64322	3.34	0.51	2.23	96.11	19.59
512	33	82620	5.25	0.65	3.51	96.76	23.10
545	64	42963	3.31	0.34	2.21	97.10	25.31
578	53	39138	3.61	0.31	2.42	97.40	27.73
611	39	32134	3.52	0.25	2.35	97.66	30.08
644	40	25462	3.28	0.20	2.19	97.86	32.28
677	41	32240	4.85	0.25	3.24	98.11	35.52
710	25	20126	3.50	0.16	2.34	98.27	37.86
743	23	15258	3.05	0.12	2.04	98.39	39.90
776	33	40478	9.26	0.32	6.19	98.71	46.08
809	30	18756	4.87	0.15	3.26	98.86	49.34
842	25	18415	5.41	0.15	3.61	99.00	52.96
875	26	22982	7.59	0.18	5.07	99.18	58.03
908	16	12092	4.47	0.10	2.99	99.28	61.02
941	12	9366	3.86	0.07	2.58	99.35	63.60
974	11	12369	5.67	0.10	3.79	99.45	67.39
1007	11	12700	6.45	0.10	4.31	99.55	71.70
1040	11	17321	9.70	0.14	6.48	99.68	78.18
1073	7	9441	5.81	0.07	3.89	99.76	82.07
1106	11	9416	6.36	0.07	4.25	99.83	86.32
1139	2	3089	2.28	0.02	1.52	99.86	87.84
1172	3	4174	3.36	0.03	2.25	99.89	90.09
1205	2	629	0.55	0.00	0.37	99.90	90.46
1238	3	5806	5.53	0.05	3.69	99.94	94.15
1271	1	604	0.62	0.00	0.42	99.95	94.57
1304	1	4080	4.55	0.03	3.04	99.98	97.61
1337	1	409	0.49	0.00	0.33	99.98	97.94
1370	1	2380	3.08	0.02	2.06	100.00	100.00
1403	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		1.27E 07	149.62				

RD-7,90 Degrees,50 mph,Esteron 99

DTG 84/09/05 10:21:00

DFM=1.0--1.5 MHz

TOTAL RAW PARTICLES.... 10587/13619-- 77.74%

NUMBER MEAN DIAMETER... 124.94 MICROMETERS S.D.... 152.50

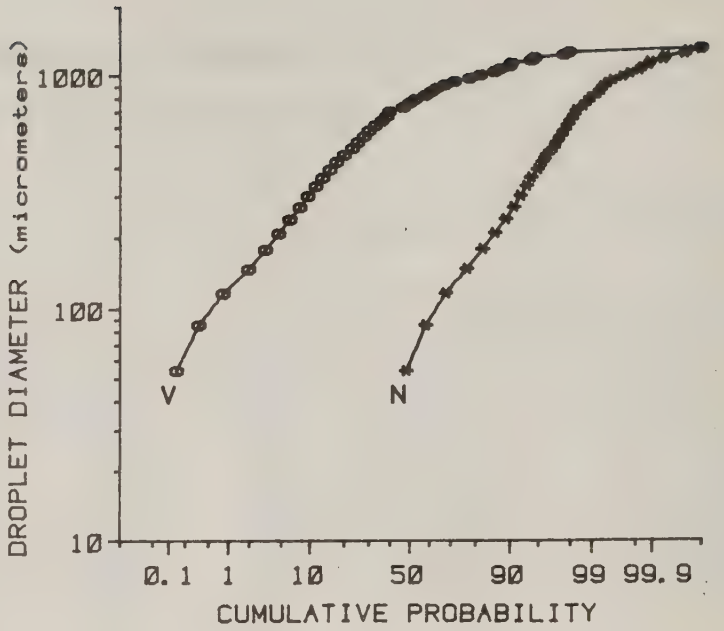
VOLUME MEAN DIAMETER... 282.42 MICROMETERS S.D.... 497.87

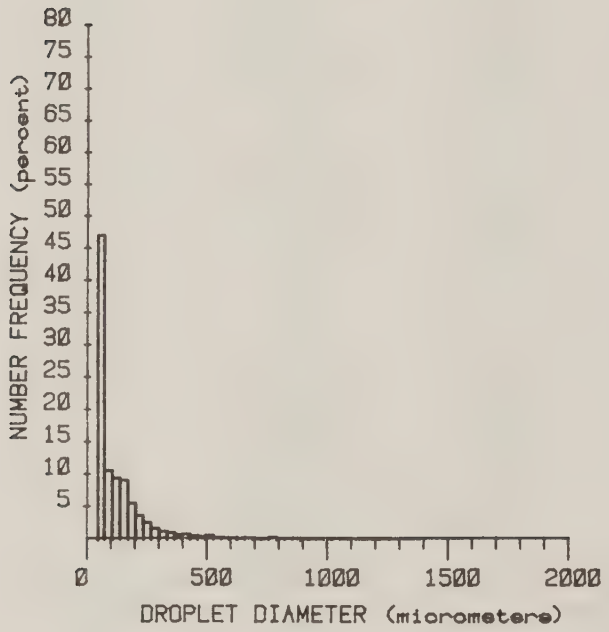
SAUTER MEAN DIAMETER... 579.59 MICROMETERS

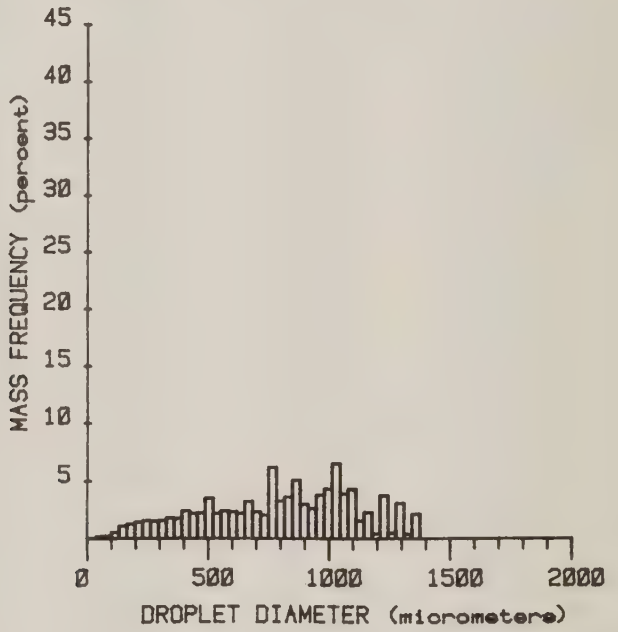
$D_{N0.1}$...	0.00 MICROMETERS	$D_{V0.1}$... 332.72 MICROMETERS	
$D_{N0.5}$...	64.58 MICROMETERS	$D_{V0.5}$... 814.52 MICROMETERS	R.S.... 1.03
$D_{N0.9}$...	267.42 MICROMETERS	$D_{V0.9}$...1170.16 MICROMETERS	

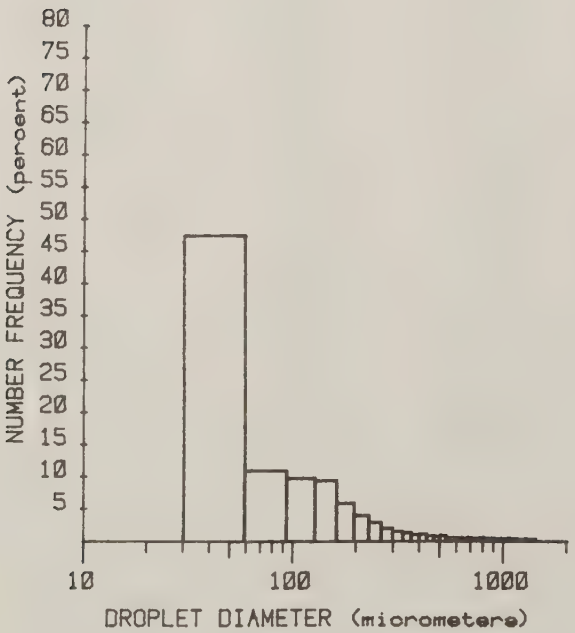
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *90°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

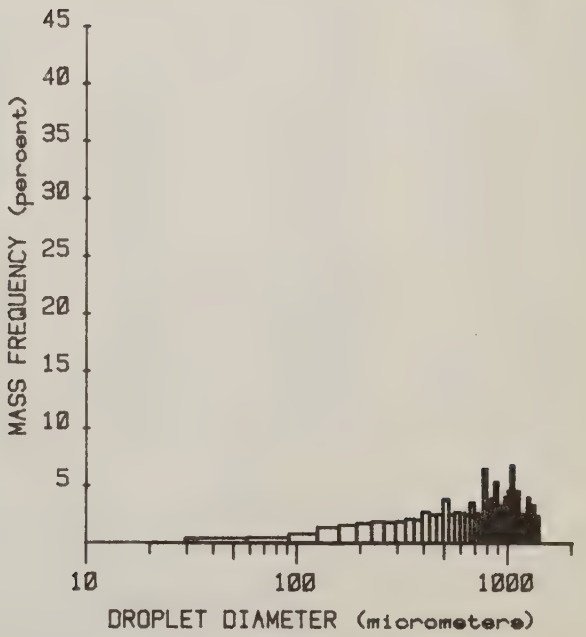
Distance to Probe... *15 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/05*
Time..... *10:21:00*
File Number..... *11.0.42*











RD-7,0 Degrees,50 mph,Garlon

DTG 84/09/14 10:51:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	386	944997	0.03	26.16	0.02	26.16	0.02
89	1477	423715	0.08	11.73	0.05	37.89	0.07
122	2053	274266	0.17	7.59	0.09	45.48	0.16
154	2105	337482	0.46	9.34	0.26	54.83	0.42
187	1463	273790	0.71	7.58	0.40	62.41	0.83
219	912	196304	0.86	5.43	0.49	67.84	1.31
252	653	157154	1.07	4.35	0.61	72.19	1.92
284	521	136690	1.37	3.78	0.78	75.98	2.70
317	412	106175	1.53	2.94	0.87	78.92	3.57
351	357	90510	1.77	2.51	1.01	81.42	4.58
382	295	73946	1.89	2.05	1.07	83.47	5.65
414	278	68744	2.26	1.90	1.29	85.37	6.94
447	247	63082	2.63	1.75	1.49	87.12	8.43
479	222	54116	2.81	1.50	1.60	88.62	10.03
512	173	40241	2.56	1.11	1.45	89.73	11.48
545	158	36963	2.85	1.02	1.62	90.75	13.10
576	150	32900	3.04	0.91	1.73	91.66	14.83
611	127	30952	3.39	0.86	1.93	92.52	16.76
644	98	20964	2.70	0.58	1.54	93.10	18.30
677	96	21960	3.30	0.61	1.88	93.71	20.17
710	85	19192	3.34	0.53	1.90	94.24	22.07
743	90	19731	3.95	0.55	2.25	94.79	24.32
776	77	17656	4.04	0.49	2.30	95.28	26.61
809	75	17034	4.43	0.47	2.52	95.75	29.13
842	61	12650	3.71	0.35	2.11	96.10	31.24
875	55	11976	3.96	0.33	2.25	96.43	33.49
908	49	10451	3.87	0.29	2.20	96.72	35.69
941	36	9781	4.04	0.27	2.29	96.99	37.99
974	33	7174	3.29	0.20	1.87	97.19	39.86
1007	43	13453	6.83	0.37	3.88	97.56	43.74
1040	32	6702	3.75	0.19	2.13	97.75	45.87
1073	38	11649	7.17	0.32	4.08	98.07	49.95
1106	27	6704	4.53	0.19	2.57	98.25	52.53
1139	27	8002	5.91	0.22	3.36	98.48	55.89
1172	26	7404	5.97	0.20	3.39	98.68	59.28
1205	21	5891	5.17	0.16	2.94	98.84	62.22
1238	14	5253	5.00	0.15	2.84	98.99	65.06
1271	20	7174	7.40	0.20	4.21	99.19	69.27
1304	8	3543	3.95	0.10	2.25	99.29	71.51
1337	7	2796	3.36	0.08	1.91	99.36	73.43
1370	7	3208	4.16	0.09	2.36	99.45	75.79
1403	6	1099	1.53	0.03	0.87	99.48	76.66
1436	5	2528	3.78	0.07	2.15	99.55	78.81
1469	7	2832	4.53	0.08	2.58	99.63	81.39
1502	3	2211	3.79	0.06	2.15	99.69	83.54
1535	2	1268	2.32	0.04	1.32	99.73	84.86
1568	2	575	1.12	0.02	0.64	99.74	85.50
1601	3	2191	4.55	0.06	2.59	99.80	88.09
1634	3	2243	4.96	0.06	2.82	99.87	90.91

RD-7,0 Degrees,50 mph,Garlon

DTG 84/09/14 10:51:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	1	1346	3.16	0.04	1.80	99.90	92.70
1700	0	0	0.00	0.00	0.00	99.90	92.70
1733	0	0	0.00	0.00	0.00	99.90	92.70
1766	0	0	0.00	0.00	0.00	99.90	92.70
1799	0	0	0.00	0.00	0.00	99.90	92.70
1832	0	0	0.00	0.00	0.00	99.90	92.70
1865	0	0	0.00	0.00	0.00	99.90	92.70
1898	0	0	0.00	0.00	0.00	99.90	92.70
1931	1	3499	12.83	0.10	7.30	100.00	100.00
1964	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		3.61E 06	175.86				

TOTAL RAW PARTICLES.... 13049/15203-- 85.83%

NUMBER MEAN DIAMETER... 221.63 MICROMETERS S.D.... 252.22

VOLUME MEAN DIAMETER... 453.21 MICROMETERS S.D.... 738.34

SAUTER MEAN DIAMETER... 825.73 MICROMETERS

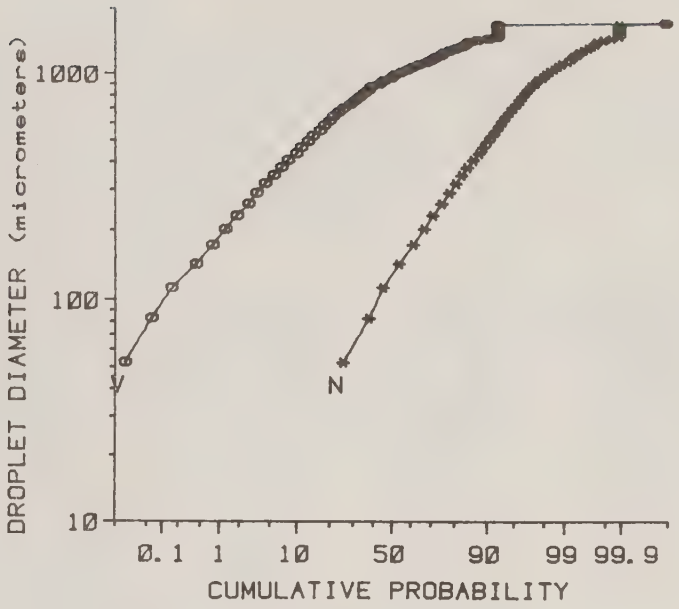
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 479.22 MICROMETERS

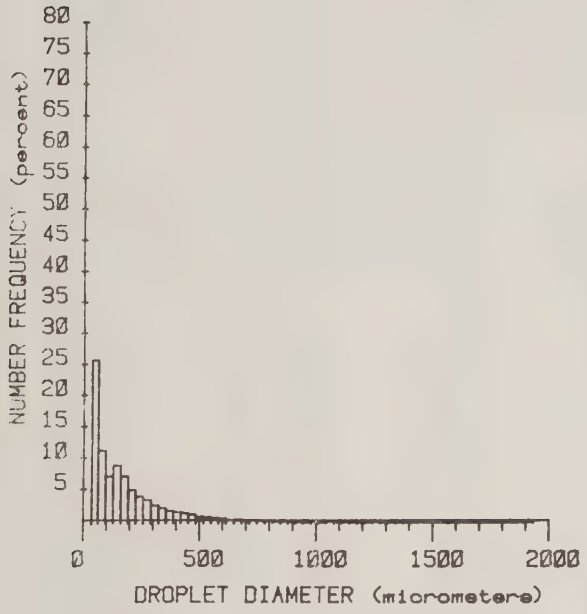
$D_{N0.5}$... 137.55 MICROMETERS $D_{V0.5}$...1073.14 MICROMETERS R.S.... 1.07

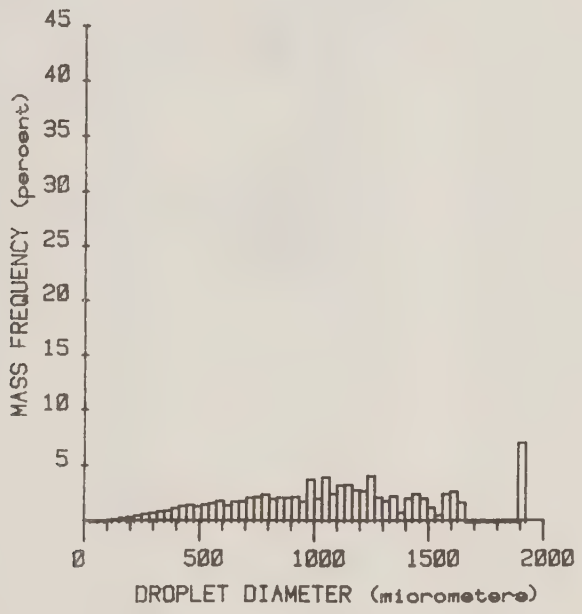
$D_{N0.9}$... 520.52 MICROMETERS $D_{V0.9}$...1622.90 MICROMETERS

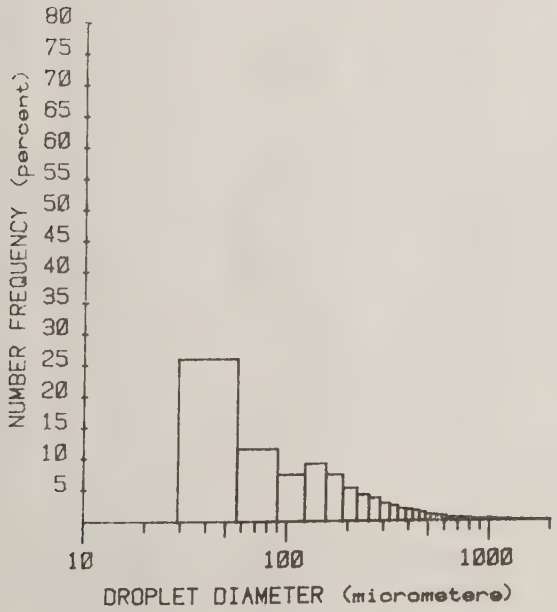
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

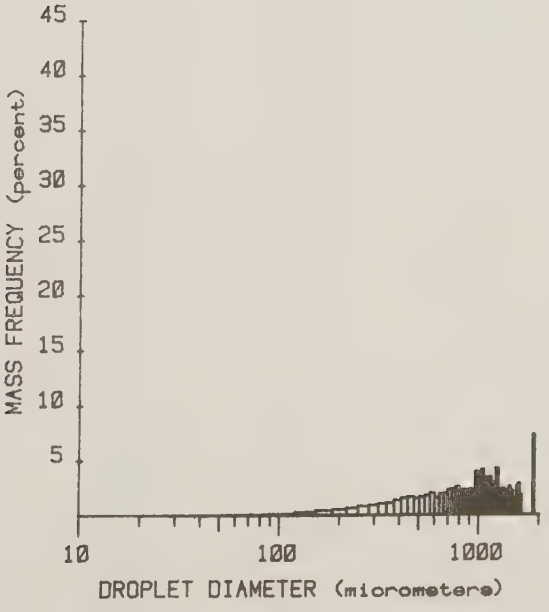
Distance to Probe... *38 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/14*
Time..... *10:51:00*
File Number..... *11.0.52*











RD-7,45 Degrees,50 mph,Garlon

DTG 80/09/00 16:00:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	306	1.43E 06	0.05	30.07	0.03	30.07	0.03
89	1034	572895	0.11	12.04	0.08	42.11	0.11
122	1540	368302	0.22	7.74	0.15	49.85	0.25
154	1723	449336	0.61	9.44	0.41	59.29	0.66
187	1357	391947	1.02	8.24	0.67	67.53	1.33
219	827	265071	1.16	5.57	0.77	73.10	2.10
252	610	229051	1.56	4.81	1.03	77.91	3.14
284	419	157331	1.58	3.31	1.05	81.21	4.18
318	348	130761	1.88	2.75	1.24	83.96	5.43
351	261	93175	1.82	1.96	1.21	85.92	6.63
382	203	86194	2.20	1.81	1.46	87.73	8.09
414	211	84054	2.77	1.77	1.83	89.50	9.93
447	138	55047	2.29	1.16	1.52	90.65	11.44
479	127	48350	2.51	1.02	1.66	91.67	13.11
512	95	37463	2.38	0.79	1.58	92.46	14.68
545	99	37812	2.91	0.79	1.93	93.25	16.61
578	74	32631	3.01	0.69	2.00	93.94	18.61
611	68	23307	2.55	0.49	1.69	94.43	20.30
644	66	22847	2.95	0.48	1.95	94.91	22.25
677	65	23979	3.61	0.50	2.39	95.41	24.64
710	56	24134	4.20	0.51	2.78	95.92	27.42
743	56	22459	4.49	0.47	2.98	96.39	30.40
776	41	11228	2.57	0.24	1.70	96.63	32.10
809	35	15203	3.95	0.32	2.62	96.95	34.71
842	40	17787	5.22	0.37	3.46	97.32	38.17
875	31	12933	4.27	0.27	2.83	97.59	41.00
908	27	12061	4.46	0.25	2.96	97.84	43.96
941	30	14047	5.80	0.30	3.84	98.14	47.80
974	26	13591	6.23	0.29	4.13	98.42	51.92
1007	30	8988	4.56	0.19	3.02	98.61	54.95
1040	19	9136	5.12	0.19	3.39	98.81	58.33
1073	12	4975	3.06	0.10	2.03	98.91	60.36
1106	16	6122	4.14	0.13	2.74	99.04	63.10
1139	12	5505	4.07	0.12	2.69	99.15	65.80
1172	13	7530	6.07	0.16	4.02	99.31	69.81
1205	8	5253	4.61	0.11	3.05	99.42	72.87
1238	6	3246	3.09	0.07	2.05	99.49	74.91
1271	6	3691	3.81	0.08	2.52	99.57	77.43
1304	5	2730	3.04	0.06	2.02	99.63	79.45
1337	1	47	0.06	0.00	0.04	99.63	79.49
1370	3	1135	1.47	0.02	0.97	99.65	80.46
1403	1	545	0.76	0.01	0.50	99.66	80.96
1436	3	3295	4.92	0.07	3.26	99.73	84.23
1469	1	392	0.63	0.01	0.42	99.74	84.64
1502	5	7439	12.74	0.16	8.44	99.90	93.08
1535	0	0	0.00	0.00	0.00	99.90	93.08
1568	0	0	0.00	0.00	0.00	99.90	93.08
1601	1	3585	7.45	0.08	4.94	99.97	98.02
1634	1	1354	2.99	0.03	1.98	100.00	100.00

RD-7,45 Degrees,50 mph,Garlon

DTG 80/09/00 16:00:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		4.76E 06	150.97				

TOTAL RAW PARTICLES.... 10056/12569-- 80.01%

NUMBER MEAN DIAMETER... 189.97 MICROMETERS S.D.... 216.54

VOLUME MEAN DIAMETER... 392.91 MICROMETERS S.D.... 649.81

SAUTER MEAN DIAMETER... 731.00 MICROMETERS

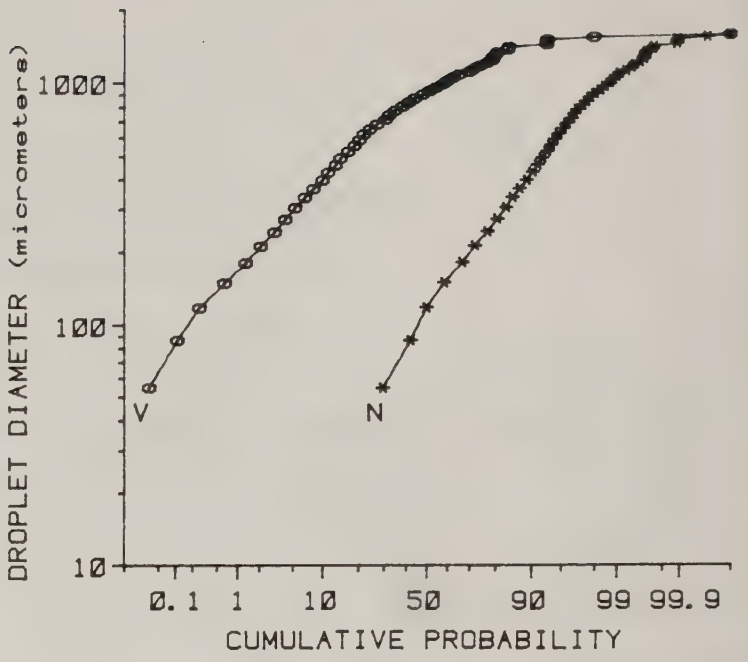
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 415.94 MICROMETERS

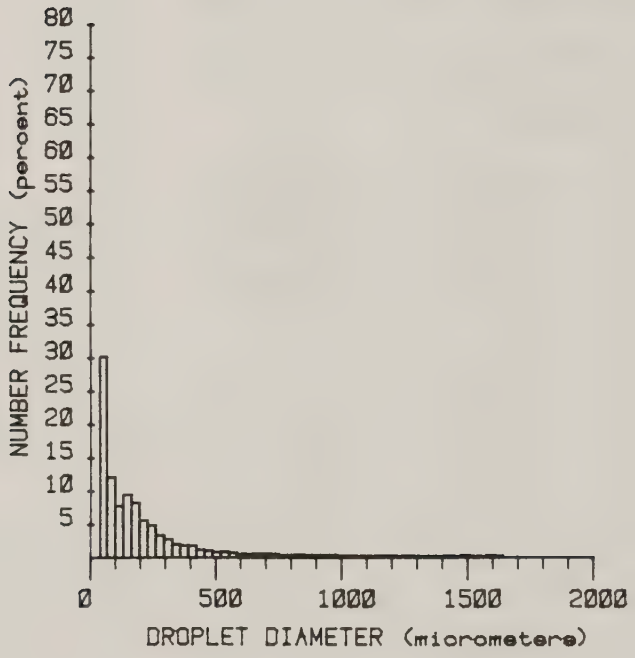
$D_{N0.5}$... 122.13 MICROMETERS $D_{V0.5}$... 958.11 MICROMETERS R.S.... 1.12

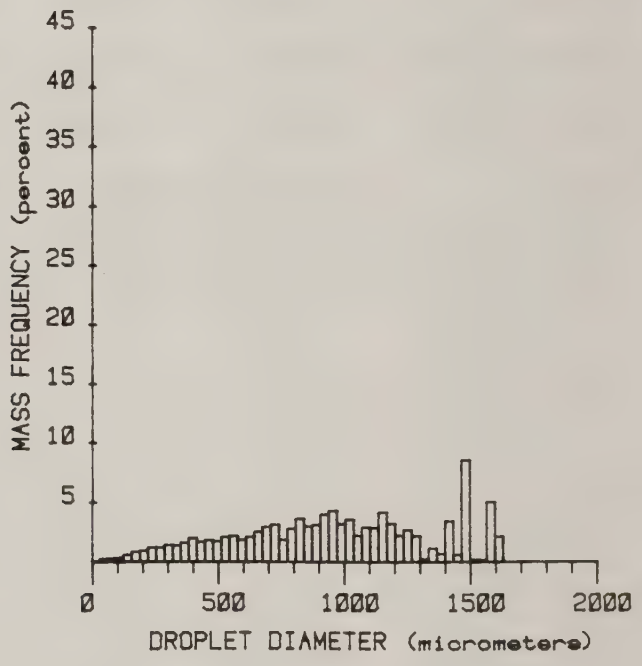
$D_{N0.9}$... 428.66 MICROMETERS $D_{V0.9}$...1489.45 MICROMETERS

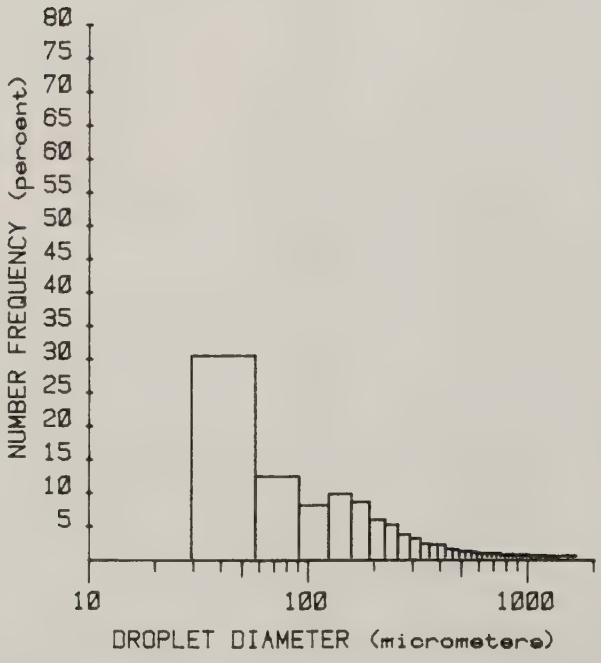
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

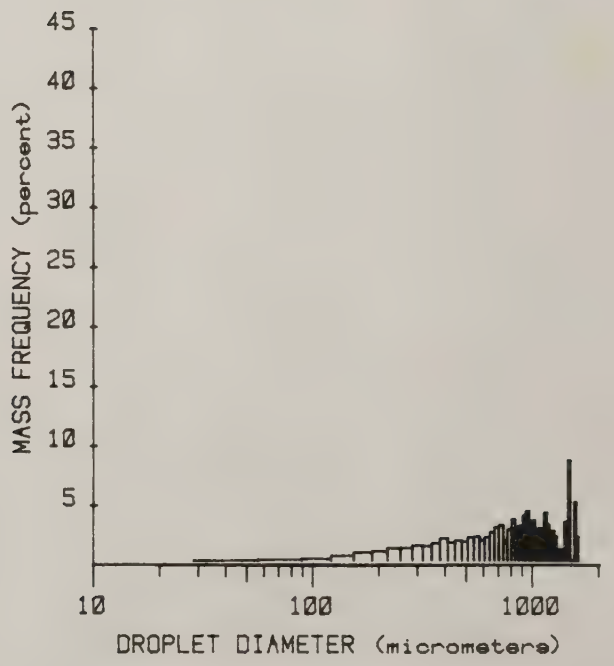
Distance to Probe... *20 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *80/09/00*
Time..... *16:00:00*
File Number..... *11.0.55*











RD-7,90 Degrees,50 mph,Garlon

DTG 84/09/17 15:21:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	574	2.49E 06	0.08	40.25	0.08	40.25	0.08
89	1008	737654	0.15	11.94	0.14	52.19	0.21
122	1236	413731	0.25	6.70	0.24	58.88	0.45
154	1468	541918	0.74	8.77	0.69	67.65	1.14
187	1136	410978	1.06	6.65	1.00	74.30	2.14
219	765	335842	1.47	5.43	1.37	79.74	3.51
252	469	213972	1.49	3.54	1.40	83.28	4.91
284	358	182194	1.83	2.95	1.71	86.23	6.62
318	198	95877	1.38	1.55	1.29	87.78	7.91
351	190	110647	2.16	1.79	2.03	89.57	9.94
382	155	84761	2.16	1.37	2.03	90.94	11.97
414	112	73504	2.42	1.19	2.27	92.13	14.23
447	125	66633	2.78	1.08	2.60	93.21	16.83
479	100	58028	3.01	0.94	2.82	94.15	19.65
512	76	43111	2.74	0.70	2.57	94.85	22.21
545	74	44918	3.46	0.73	3.24	95.57	25.45
578	66	28671	2.65	0.46	2.48	96.04	27.93
611	58	30370	3.33	0.49	3.12	96.53	31.04
644	51	20841	2.69	0.34	2.52	96.87	33.56
677	50	22174	3.33	0.36	3.12	97.23	36.68
710	48	21542	3.75	0.35	3.51	97.57	40.19
743	56	26874	5.38	0.43	5.03	98.01	45.22
776	45	21124	4.83	0.34	4.52	98.35	49.75
809	33	11062	2.87	0.18	2.69	98.53	52.44
842	31	10938	3.21	0.18	3.01	98.71	55.44
875	30	16190	5.35	0.26	5.01	98.97	60.45
908	28	12818	4.74	0.21	4.44	99.18	64.89
941	20	10190	4.20	0.16	3.94	99.34	68.83
974	17	7087	3.25	0.11	3.04	99.46	71.87
1007	14	4546	2.31	0.07	2.16	99.53	74.03
1040	11	5045	2.83	0.08	2.64	99.61	76.67
1073	6	2581	1.59	0.04	1.49	99.65	78.16
1106	13	4140	2.80	0.07	2.62	99.72	80.78
1139	0	0	0.00	0.00	0.00	99.72	80.78
1172	8	3774	3.04	0.06	2.85	99.78	83.62
1205	1	61	0.05	0.00	0.05	99.78	83.67
1238	3	2068	1.97	0.03	1.84	99.82	85.52
1271	1	43	0.04	0.00	0.04	99.82	85.56
1304	3	1440	1.61	0.02	1.50	99.84	87.06
1337	1	1962	2.36	0.03	2.21	99.87	89.27
1370	0	0	0.00	0.00	0.00	99.87	89.27
1403	1	4388	6.11	0.07	5.72	99.94	94.99
1436	1	3582	5.35	0.06	5.01	100.00	100.00
1469	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		6.18E 06	106.82				

TOTAL RAW PARTICLES.... 8640/11157-- 77.44%

NUMBER MEAN DIAMETER... 153.23 MICROMETERS S.D.... 177.02

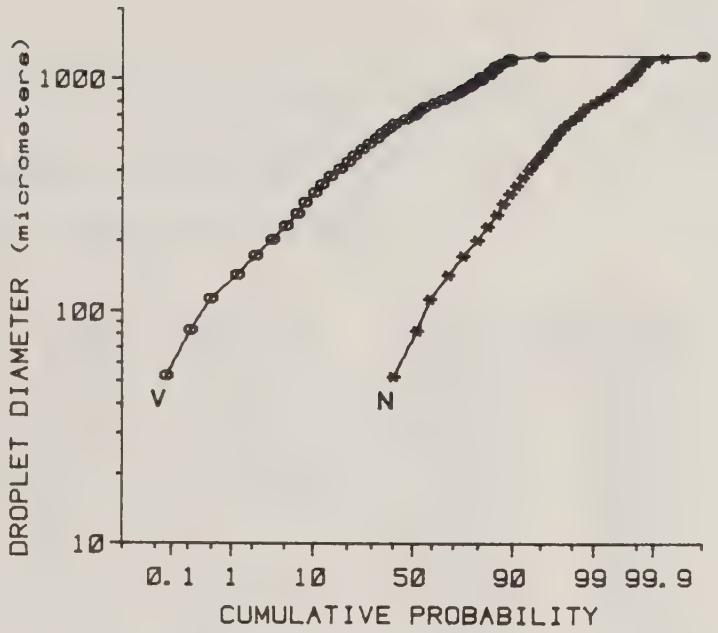
VOLUME MEAN DIAMETER... 320.93 MICROMETERS S.D.... 542.32

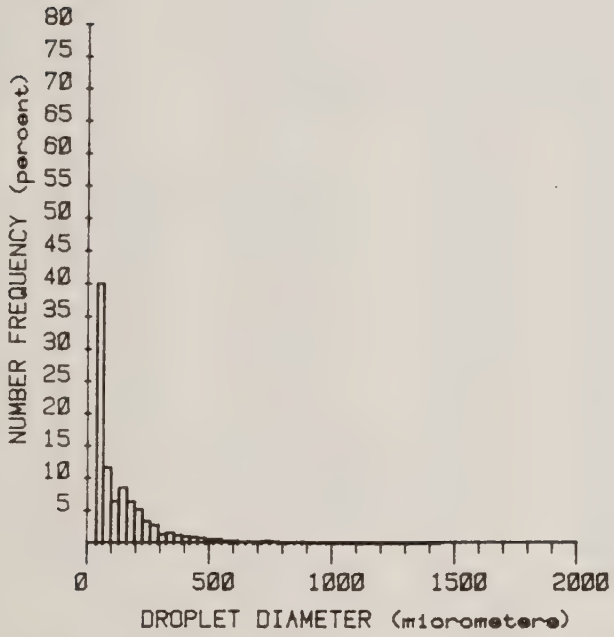
SAUTER MEAN DIAMETER... 603.00 MICROMETERS

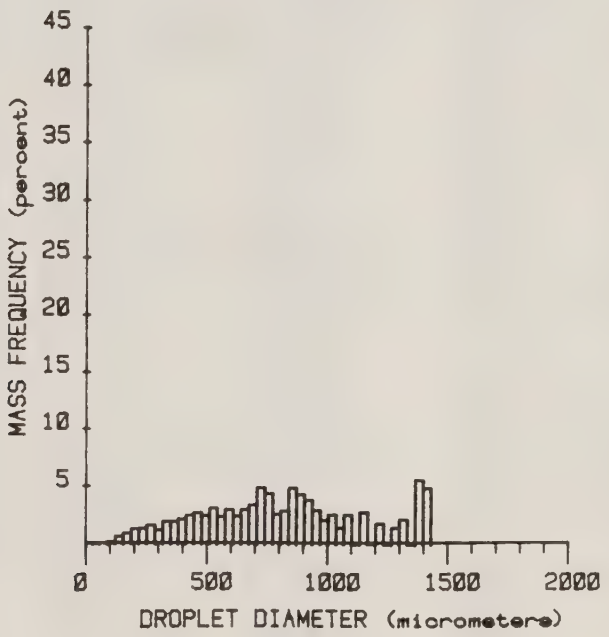
$D_{N0.1}$...	0.00 MICROMETERS	$D_{V0.1}$... 351.93 MICROMETERS	
$D_{N0.5}$...	83.22 MICROMETERS	$D_{V0.5}$... 778.61 MICROMETERS	R.S.... 1.31
$D_{N0.9}$...	361.27 MICROMETERS	$D_{V0.9}$...1373.72 MICROMETERS	

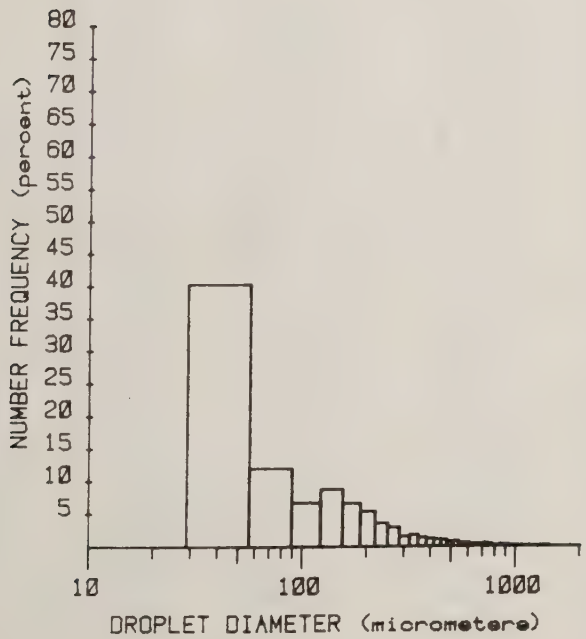
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *90°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

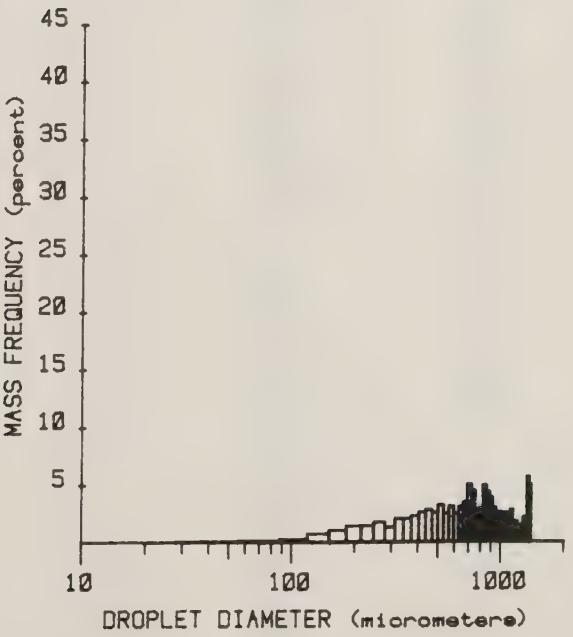
Distance to Probe... *15 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/17*
Time..... *15:21:00*
File Number..... *11.0.59*











RD-7,0 Degrees,50 mph,Roundup

DTG 84/09/24 11:31:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	qm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	472	1.60E 06	0.05	37.73	0.04	37.73	0.04
89	1500	496680	0.10	11.70	0.08	49.43	0.12
122	2187	339590	0.21	8.00	0.16	57.42	0.27
154	2308	361764	0.49	8.52	0.38	65.94	0.65
187	1812	302116	0.78	7.11	0.60	73.06	1.25
219	1260	215905	0.94	5.08	0.72	78.14	1.97
252	872	140783	0.96	3.32	0.73	81.46	2.70
284	717	121092	1.22	2.85	0.93	84.31	3.63
318	551	93818	1.35	2.21	1.03	86.52	4.66
351	461	85326	1.67	2.01	1.28	88.53	5.94
382	395	64942	1.66	1.53	1.27	90.06	7.20
414	339	48635	1.60	1.15	1.22	91.20	8.43
447	311	40891	1.70	0.96	1.30	92.17	9.73
479	256	32851	1.70	0.77	1.30	92.94	11.03
512	244	37878	2.41	0.89	1.84	93.83	12.87
545	209	28564	2.20	0.67	1.68	94.50	14.55
578	189	22478	2.08	0.53	1.59	95.03	16.13
611	159	16507	1.81	0.39	1.38	95.42	17.52
644	150	15678	2.02	0.37	1.54	95.79	19.06
677	120	14696	2.21	0.35	1.69	96.14	20.75
710	131	13878	2.42	0.33	1.85	96.46	22.59
743	104	10281	2.06	0.24	1.57	96.71	24.17
776	87	11299	2.58	0.27	1.97	96.97	26.14
809	71	8681	2.26	0.20	1.72	97.18	27.86
842	70	6461	1.90	0.15	1.45	97.33	29.31
875	75	9357	3.09	0.22	2.36	97.55	31.67
903	70	13971	5.17	0.33	3.95	97.88	35.62
941	48	7134	2.94	0.17	2.25	98.05	37.87
974	48	6267	2.87	0.15	2.19	98.19	40.06
1007	52	11030	5.60	0.26	4.28	98.45	44.34
1040	43	7035	3.94	0.17	3.01	98.62	47.35
1073	40	4624	2.85	0.11	2.18	98.73	49.52
1106	31	3845	2.60	0.09	1.98	98.82	51.51
1139	34	4950	3.66	0.12	2.79	98.94	54.30
1172	35	10265	8.27	0.24	6.32	99.18	60.62
1205	34	4768	4.18	0.11	3.19	99.29	63.82
1238	20	4231	4.03	0.10	3.08	99.39	66.89
1271	18	3199	3.30	0.08	2.52	99.46	69.41
1304	10	1462	1.63	0.03	1.24	99.50	70.66
1337	19	2088	2.51	0.05	1.92	99.55	72.58
1370	10	1722	2.23	0.04	1.70	99.59	74.28
1403	10	1617	2.25	0.04	1.72	99.63	76.00
1436	7	4040	6.04	0.10	4.61	99.72	80.61
1469	7	2185	3.50	0.05	2.67	99.77	83.28
1502	4	2206	3.78	0.05	2.89	99.82	86.17
1535	6	729	1.33	0.02	1.02	99.84	87.19
1568	3	733	1.43	0.02	1.09	99.86	88.28
1601	9	2130	4.43	0.05	3.38	99.91	91.66
1634	1	304	0.67	0.01	0.51	99.92	92.18

RD-7,0 Degrees,50 mph,Roundup

DTG 84/09/24 11:31:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	2	394	0.93	0.01	0.71	99.93	92.88
1700	1	878	2.19	0.02	1.67	99.95	94.56
1733	2	354	0.94	0.01	0.71	99.95	95.27
1766	2	518	1.45	0.01	1.11	99.97	96.38
1799	1	173	0.51	0.00	0.39	99.97	96.77
1832	0	0	0.00	0.00	0.00	99.97	96.77
1865	1	167	0.55	0.00	0.42	99.98	97.19
1898	1	1057	3.68	0.02	2.81	100.00	100.00
1931	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		4.25E 06	130.91				

TOTAL RAW PARTICLES.... 15619/18019-- 86.68%

NUMBER MEAN DIAMETER... 169.25 MICROMETERS S.D.... 214.14

VOLUME MEAN DIAMETER... 389.17 MICROMETERS S.D.... 677.81

SAUTER MEAN DIAMETER... 791.16 MICROMETERS

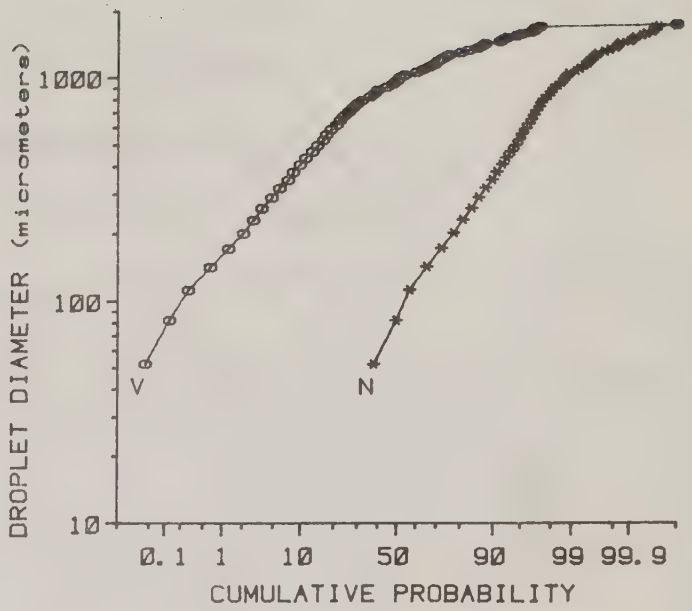
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 453.70 MICROMETERS

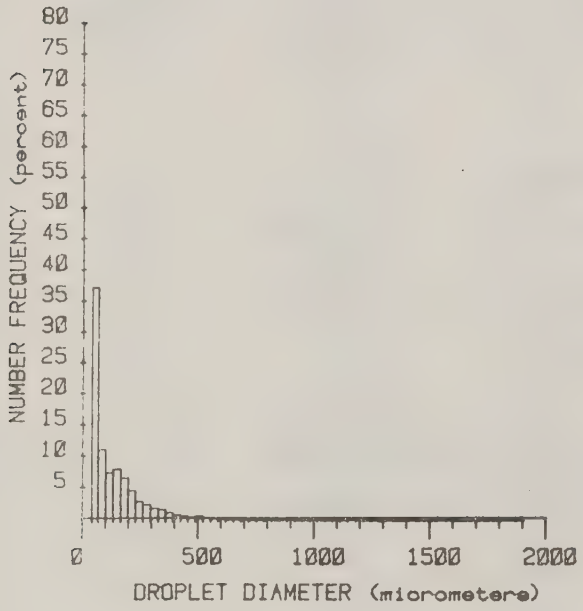
$D_{N0.5}$... 91.30 MICROMETERS $D_{V0.5}$...1080.41 MICROMETERS R.S.... 1.05

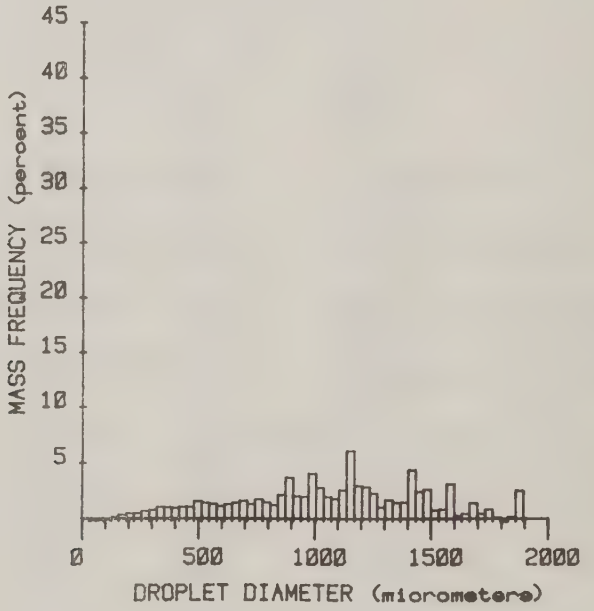
$D_{N0.9}$... 382.71 MICROMETERS $D_{V0.9}$...1584.28 MICROMETERS

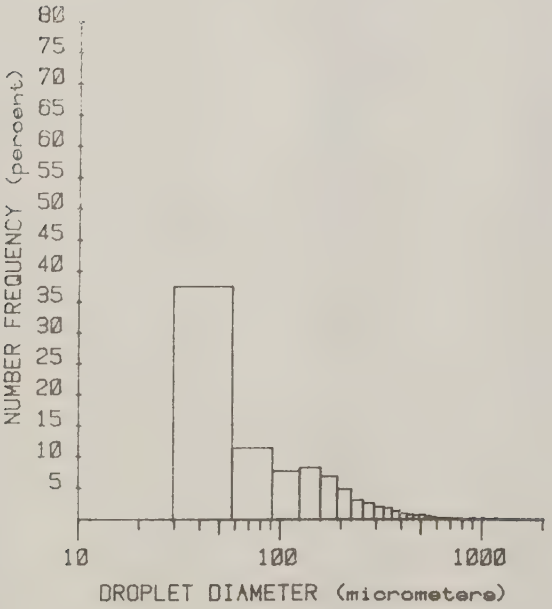
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

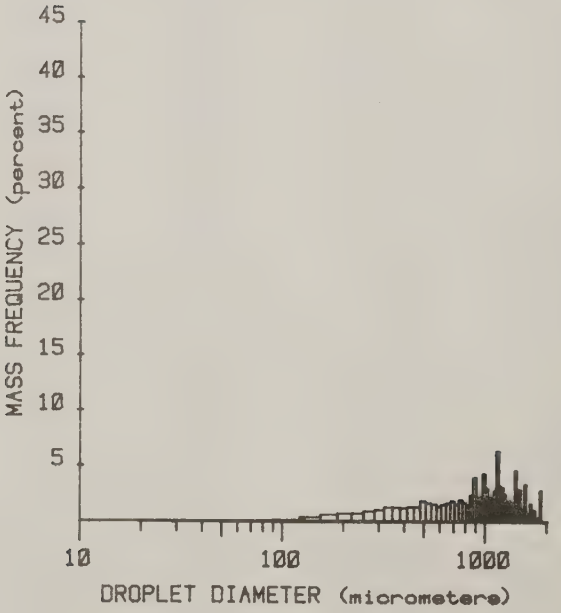
Distance to Probe... *38 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/24*
Time..... *11:31:00*
File Number..... *11.0.69*











RD-7,45 Degrees,50 mph,Roundup

DTG 84/09/18 13:48:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	635	2.21E 06	0.07	41.10	0.06	41.10	0.06
89	1754	696459	0.14	12.97	0.11	54.07	0.16
122	2706	413536	0.25	7.70	0.19	61.77	0.36
154	2314	437837	0.60	8.15	0.46	69.92	0.82
187	2257	360807	0.93	6.72	0.72	76.64	1.54
219	1525	245578	1.07	4.57	0.83	81.21	2.37
252	1107	170040	1.16	3.17	0.90	84.37	3.27
284	809	122043	1.23	2.27	0.95	86.65	4.22
318	578	103810	1.49	1.93	1.15	88.58	5.37
351	484	73760	1.54	1.47	1.19	90.05	6.57
382	400	66077	1.69	1.23	1.31	91.28	7.87
414	365	62150	2.05	1.16	1.58	92.43	9.45
447	299	53190	2.22	0.99	1.72	93.42	11.17
479	257	42215	2.19	0.79	1.69	94.21	12.86
512	202	35287	2.24	0.66	1.74	94.87	14.60
546	200	32519	2.50	0.61	1.94	95.47	16.53
578	148	26772	2.47	0.50	1.91	95.97	18.45
611	145	25783	2.83	0.48	2.19	96.45	20.63
644	117	19521	2.52	0.36	1.95	96.81	22.58
677	114	17407	2.62	0.32	2.02	97.14	24.61
710	92	13304	2.32	0.25	1.79	97.38	26.40
743	90	15663	3.13	0.29	2.43	97.68	28.32
776	72	12651	2.89	0.24	2.24	97.91	31.06
809	62	9919	2.58	0.18	1.99	98.10	33.06
842	57	8862	2.60	0.16	2.01	98.26	35.07
875	44	6880	2.27	0.13	1.76	98.39	36.83
908	45	8238	3.05	0.15	2.36	98.54	39.19
941	48	6912	2.85	0.13	2.21	98.67	41.39
974	35	6418	2.94	0.12	2.28	98.79	43.67
1007	27	5568	2.83	0.10	2.19	98.89	45.85
1040	46	7345	4.11	0.14	3.18	99.03	49.04
1073	24	4601	2.83	0.09	2.19	99.12	51.23
1106	28	5411	3.65	0.10	2.83	99.22	54.06
1139	22	3501	2.59	0.07	2.00	99.28	56.06
1172	24	5606	4.52	0.10	3.50	99.39	59.55
1205	13	3040	2.67	0.06	2.06	99.44	61.62
1238	13	2876	2.74	0.05	2.12	99.50	63.73
1271	12	1839	1.90	0.03	1.47	99.53	65.20
1304	10	2895	3.23	0.05	2.50	99.59	67.70
1337	9	2638	3.17	0.05	2.46	99.63	70.15
1370	7	2244	2.91	0.04	2.25	99.68	72.40
1403	5	884	1.23	0.02	0.95	99.69	73.36
1436	10	4147	6.20	0.08	4.80	99.77	78.15
1469	4	1430	2.29	0.03	1.77	99.80	79.92
1502	1	80	0.14	0.00	0.11	99.80	80.03
1535	4	967	1.77	0.02	1.37	99.82	81.40
1568	2	903	1.76	0.02	1.36	99.83	82.76
1601	2	1455	3.02	0.03	2.34	99.86	85.10
1634	0	0	0.00	0.00	0.00	99.86	85.10

RD-7,45 Degrees,50 mph,Roundup

DTG 84/09/18 13:48:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	2	2276	5.35	0.04	4.14	99.90	89.24
1700	2	1190	2.97	0.02	2.30	99.92	91.53
1733	2	2633	6.96	0.05	5.38	99.97	96.92
1766	1	1173	3.28	0.02	2.54	100.00	99.46
1799	1	238	0.70	0.00	0.54	100.00	100.00
1832	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		5.37E 06	129.25				

TOTAL RAW PARTICLES.... 17732/21352-- 83.05%

NUMBER MEAN DIAMETER... 151.91 MICROMETERS S.D.... 194.52

VOLUME MEAN DIAMETER... 358.33 MICROMETERS S.D.... 654.46

SAUTER MEAN DIAMETER... 755.33 MICROMETERS

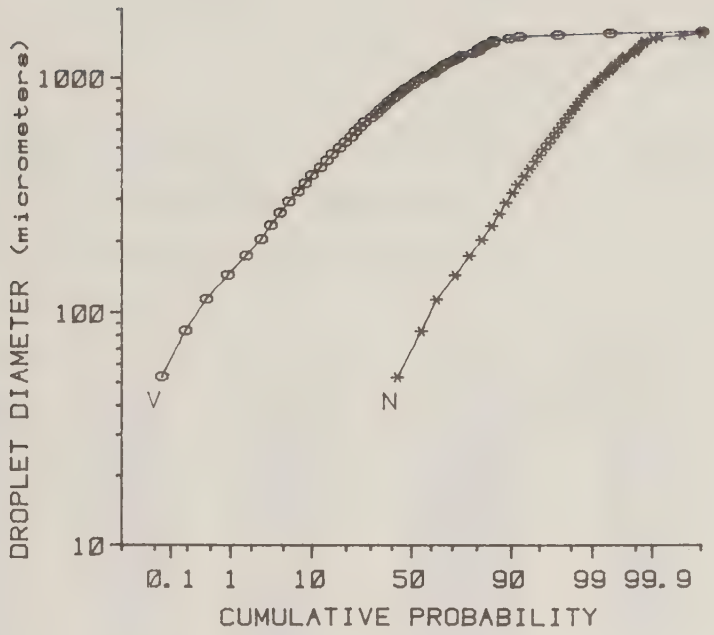
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 424.81 MICROMETERS

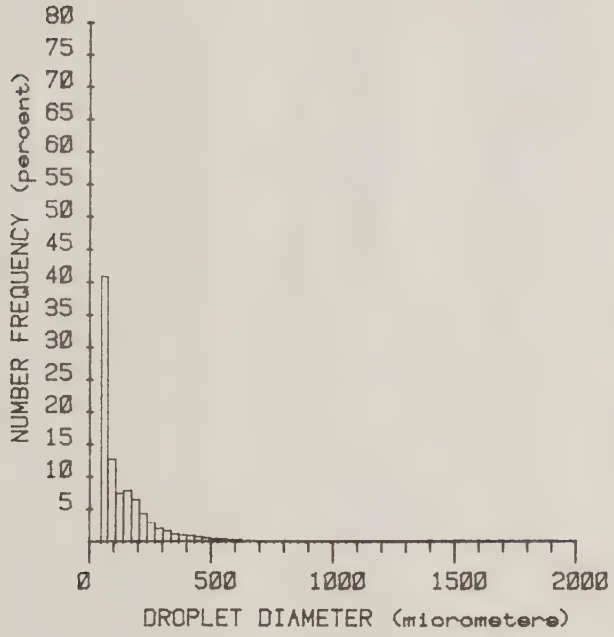
$D_{N0.5}$... 78.91 MICROMETERS $D_{V0.5}$...1054.01 MICROMETERS R.S.... 1.19

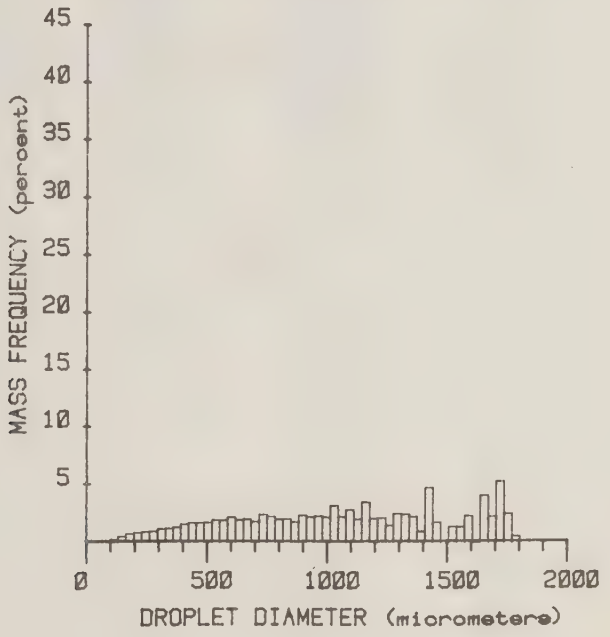
$D_{N0.9}$... 350.27 MICROMETERS $D_{V0.9}$...1677.47 MICROMETERS

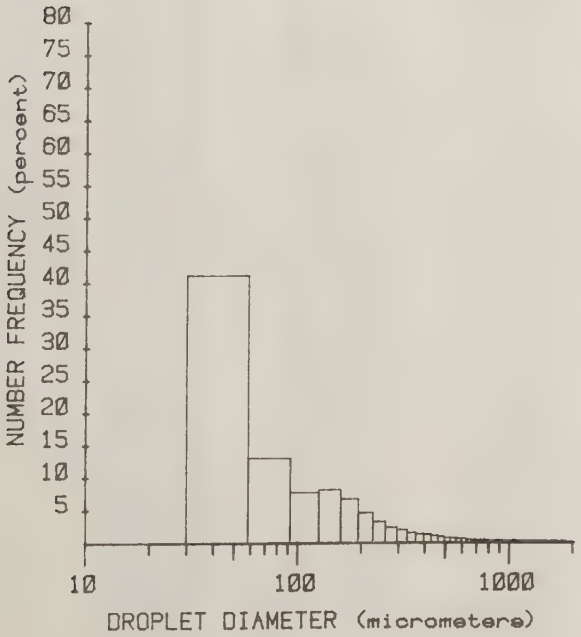
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

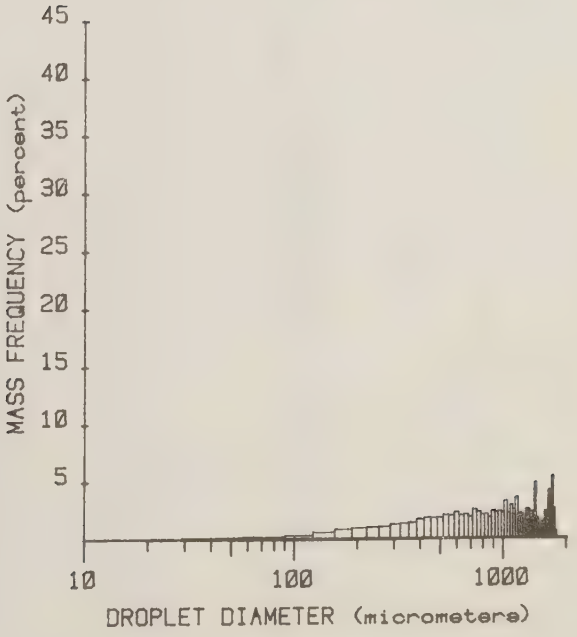
Distance to Probe... *20 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/18*
Time..... *13:48:00*
File Number..... *11.0.65*











RD-7,90 Degrees,50 mph,Roundup

DTG 84/09/18 09:10:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	671	4.07E 06	0.13	50.30	0.11	50.30	0.11
89	1080	983371	0.20	12.15	0.15	62.45	0.26
122	1279	515694	0.31	6.37	0.25	68.82	0.51
154	1473	568093	0.78	7.02	0.61	75.84	1.12
187	1121	423264	1.10	5.23	0.87	81.07	1.99
219	770	291689	1.28	3.60	1.01	84.67	2.99
252	572	234661	1.60	2.90	1.26	87.57	4.26
284	409	169117	1.70	2.09	1.34	89.66	5.60
318	277	124041	1.78	1.53	1.41	91.20	7.01
351	244	116027	2.27	1.43	1.79	92.63	8.80
382	189	86212	2.20	1.07	1.74	93.69	10.54
414	127	64937	2.14	0.80	1.69	94.50	12.23
447	111	49099	2.05	0.61	1.62	95.10	13.85
479	123	51088	2.65	0.63	2.09	95.73	15.94
512	96	42221	2.68	0.52	2.12	96.26	18.06
545	91	35281	2.72	0.44	2.15	96.69	20.20
578	64	20879	1.93	0.26	1.52	96.95	21.73
611	81	32546	3.57	0.40	2.82	97.35	24.55
644	44	14862	1.92	0.18	1.51	97.54	26.06
677	52	21582	3.25	0.27	2.56	97.80	28.62
710	56	20064	3.49	0.25	2.76	98.05	31.38
743	53	14978	3.00	0.19	2.37	98.24	33.75
776	46	14966	3.42	0.18	2.70	98.42	36.45
809	44	16679	4.33	0.21	3.42	98.63	39.88
842	39	16880	4.96	0.21	3.92	98.84	43.79
875	36	11127	3.68	0.14	2.90	98.97	46.70
908	22	5194	1.92	0.06	1.52	99.04	48.21
941	28	11352	4.68	0.14	3.70	99.18	51.91
974	27	7918	3.63	0.10	2.87	99.27	54.78
1007	12	6031	3.06	0.07	2.42	99.35	57.20
1040	17	4886	2.74	0.06	2.16	99.41	59.36
1073	15	3118	1.92	0.04	1.52	99.45	60.88
1106	14	7098	4.79	0.09	3.79	99.54	64.66
1139	9	3121	2.31	0.04	1.82	99.57	66.49
1172	13	4790	3.86	0.06	3.05	99.63	69.54
1205	9	4995	4.38	0.06	3.46	99.70	73.00
1238	7	3420	3.26	0.04	2.57	99.74	75.57
1271	7	5417	5.59	0.07	4.41	99.80	79.98
1304	7	3832	4.27	0.05	3.38	99.85	83.36
1337	2	335	0.40	0.00	0.32	99.86	83.67
1370	2	598	0.77	0.01	0.61	99.86	84.29
1403	0	0	0.00	0.00	0.00	99.86	84.29
1436	1	2887	4.31	0.04	3.41	99.90	87.69
1469	3	2369	3.79	0.03	3.00	99.93	90.69
1502	3	4356	7.46	0.05	5.39	99.98	96.58
1535	0	0	0.00	0.00	0.00	99.98	96.58
1568	1	366	0.72	0.00	0.56	99.99	97.15
1601	1	303	0.63	0.00	0.50	99.99	97.65
1634	0	0	0.00	0.00	0.00	99.99	97.65

RD-7,90 Degrees,50 mph,Roundup

DTG 84/09/18 09:10:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	0	0	0.00	0.00	0.00	99.99	97.65
1700	0	0	0.00	0.00	0.00	99.99	97.65
1733	0	0	0.00	0.00	0.00	99.99	97.65
1766	0	0	0.00	0.00	0.00	99.99	97.65
1799	0	0	0.00	0.00	0.00	99.99	97.65
1832	0	0	0.00	0.00	0.00	99.99	97.65
1865	0	0	0.00	0.00	0.00	99.99	97.65
1898	0	0	0.00	0.00	0.00	99.99	97.65
1931	0	0	0.00	0.00	0.00	99.99	97.65
1964	1	772	2.98	0.01	2.35	100.00	100.00
1997	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		8.09E 06	126.59				

TOTAL RAW PARTICLES.... 9349/12098-- 77.28%

NUMBER MEAN DIAMETER... 128.02 MICROMETERS S.D.... 168.11

VOLUME MEAN DIAMETER... 310.40 MICROMETERS S.D.... 575.21

SAUTER MEAN DIAMETER... 669.77 MICROMETERS

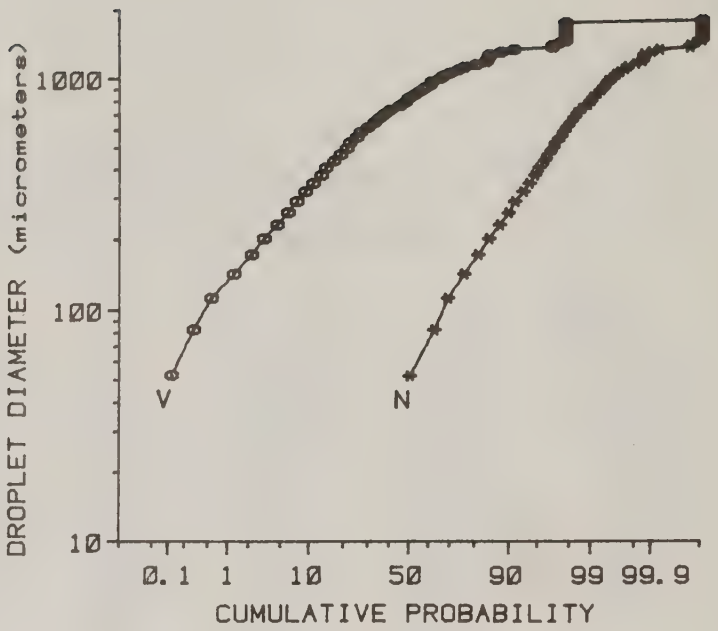
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 373.69 MICROMETERS

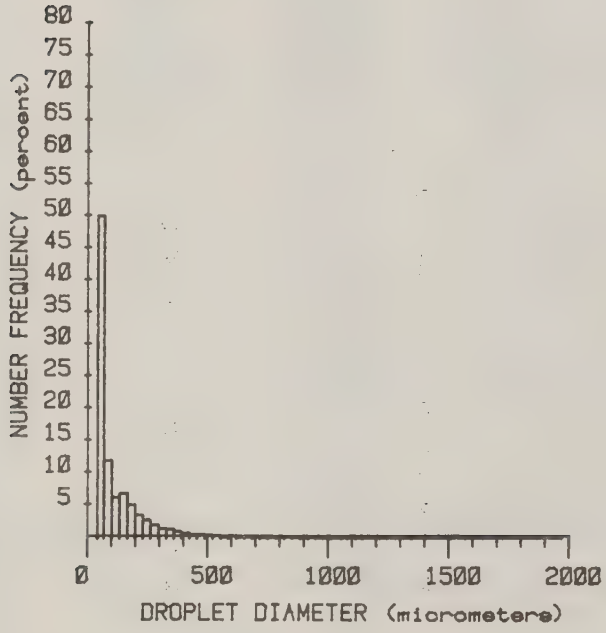
$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$... 923.43 MICROMETERS R.S.... 1.18

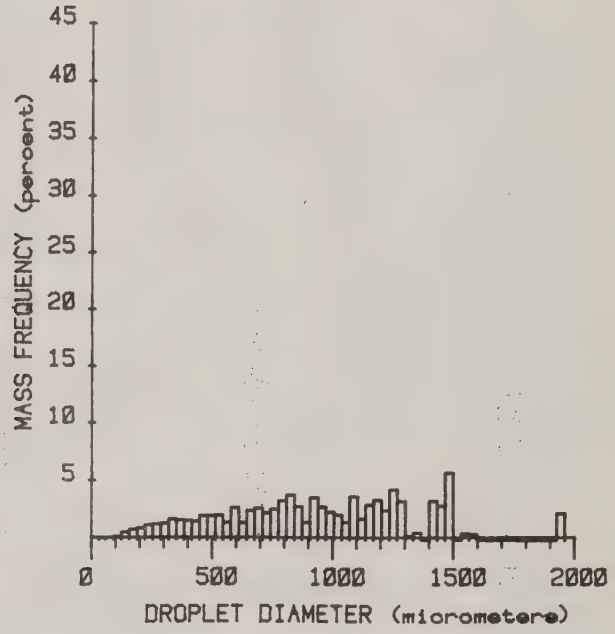
$D_{N0.9}$... 291.55 MICROMETERS $D_{V0.9}$...1460.90 MICROMETERS

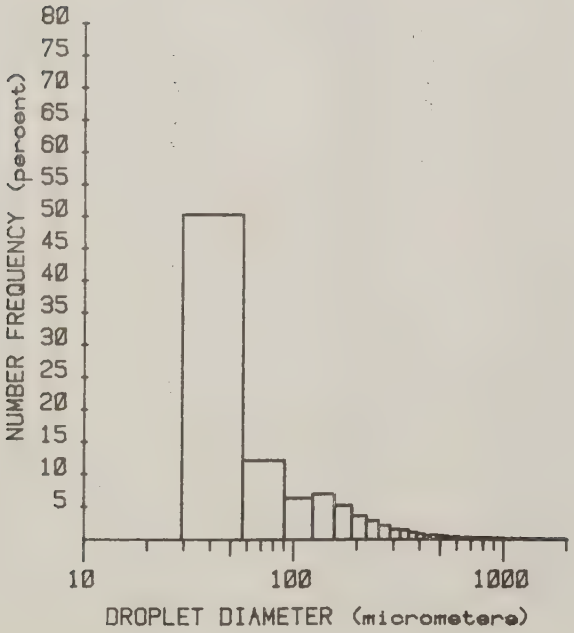
Nozzle Type..... *RD-7*
Nozzle Angle Rel.
to Airstream..... *90°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

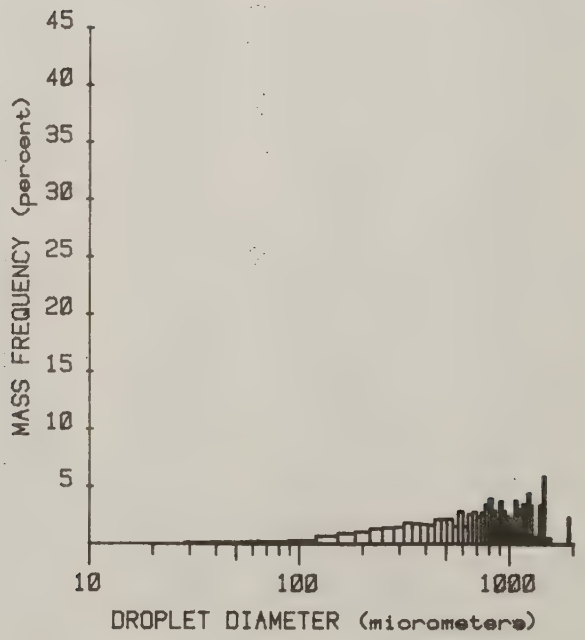
Distance to Probe... *15 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/18*
Time..... *09:10:00*
File Number..... *11.0.62*











RD-10,0 Degrees,50 mph,Esteron 99

DTG 84/09/14 10:05:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	qm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	160	483365	0.02	22.85	0.01	22.85	0.01
89	725	218216	0.04	10.32	0.03	33.16	0.04
122	1227	164293	0.10	7.77	0.07	40.93	0.11
154	1425	214597	0.29	10.14	0.21	51.07	0.33
187	1045	188037	0.49	8.89	0.35	59.96	0.68
219	613	127836	0.56	6.04	0.40	65.01	1.08
252	406	100155	0.68	4.73	0.49	70.74	1.57
284	325	81586	0.82	3.86	0.59	74.60	2.16
318	256	63705	0.92	3.01	0.66	77.61	2.82
351	187	49209	0.96	2.33	0.69	79.93	3.51
382	182	46929	1.20	2.22	0.86	82.15	4.38
414	135	33476	1.10	1.58	0.79	83.73	5.17
447	157	39974	1.67	1.89	1.20	85.62	6.37
479	134	33935	1.76	1.60	1.27	87.23	7.64
512	113	24698	1.57	1.17	1.13	88.40	8.77
545	91	20793	1.60	0.98	1.15	89.38	9.92
578	76	20470	1.89	0.97	1.36	90.35	11.28
611	80	19152	2.10	0.91	1.51	91.25	12.80
644	64	14299	1.34	0.68	1.33	91.93	14.12
677	56	12695	1.91	0.60	1.37	92.53	15.50
710	45	9649	1.68	0.46	1.21	92.98	16.71
743	44	11290	2.26	0.53	1.63	93.52	18.34
776	42	8684	1.99	0.41	1.43	93.93	19.77
809	28	7340	1.91	0.35	1.37	94.28	21.14
842	33	8271	2.43	0.39	1.75	94.67	22.89
875	33	8804	2.91	0.42	2.09	95.08	24.98
908	21	4520	1.67	0.21	1.20	95.30	26.19
941	29	3557	3.53	0.40	2.54	95.70	28.73
974	30	7969	3.65	0.38	2.63	96.08	31.36
1007	31	8625	4.38	0.41	3.15	96.48	34.51
1040	23	7840	4.39	0.37	3.16	96.86	37.68
1073	15	4119	2.54	0.19	1.83	97.05	39.50
1106	28	3596	5.31	0.41	4.13	97.46	43.63
1139	23	6174	4.56	0.29	3.29	97.75	46.97
1172	17	5617	4.53	0.27	3.26	98.01	50.23
1205	8	2674	2.34	0.13	1.69	98.14	51.92
1238	19	4727	4.50	0.22	3.24	98.36	55.16
1271	13	3057	3.15	0.14	2.27	98.51	57.43
1304	5	1630	1.82	0.08	1.31	98.59	58.74
1337	12	4116	4.95	0.19	3.57	98.78	62.31
1370	5	1760	2.28	0.08	1.64	98.86	63.95
1403	12	3340	4.55	0.16	3.35	99.02	67.30
1436	7	4259	6.36	0.20	4.58	99.22	71.88
1469	6	2259	3.62	0.11	2.60	99.33	74.49
1502	5	2167	3.71	0.10	2.67	99.43	77.16
1535	3	1263	2.31	0.06	1.66	99.49	78.83
1568	5	1703	3.32	0.08	2.39	99.57	81.22
1601	2	453	0.94	0.02	0.68	99.59	81.90
1634	2	867	1.92	0.04	1.38	99.63	83.28

RD-10,0 Degrees,50 mph,Esteron 99

DTG 84/09/14 10:05:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	3	1334	3.13	0.06	2.26	99.70	85.54
1700	2	672	1.68	0.03	1.21	99.73	86.74
1733	1	573	1.52	0.03	1.09	99.76	87.84
1766	1	626	1.75	0.03	1.26	99.79	89.10
1799	2	1262	3.74	0.06	2.69	99.85	91.79
1832	0	0	0.00	0.00	0.00	99.85	91.79
1865	0	0	0.00	0.00	0.00	99.85	91.79
1898	2	3276	11.40	0.15	8.21	100.00	100.00
1931	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.12E 06	138.83				

TOTAL RAW PARTICLES.... 8016/ 9299-- 86.20%

NUMBER MEAN DIAMETER... 242.51 MICROMETERS S.D.... 279.17

VOLUME MEAN DIAMETER... 500.64 MICROMETERS S.D.... 301.47

SAUTER MEAN DIAMETER... 917.64 MICROMETERS

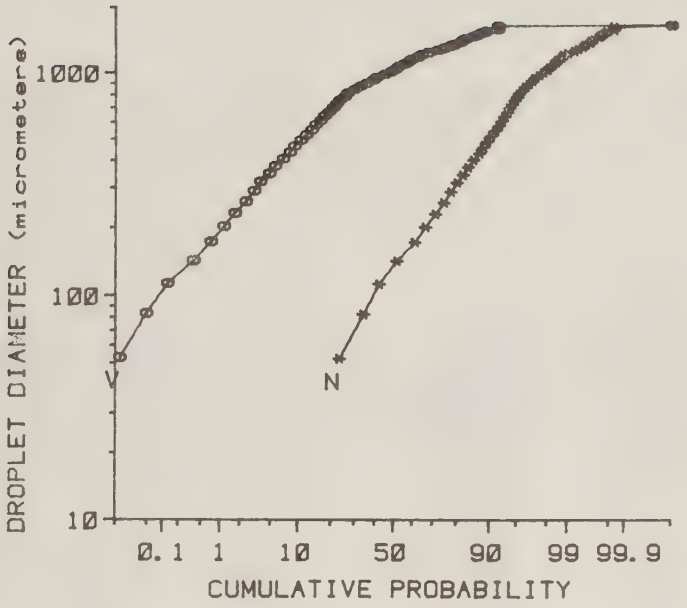
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 546.38 MICROMETERS

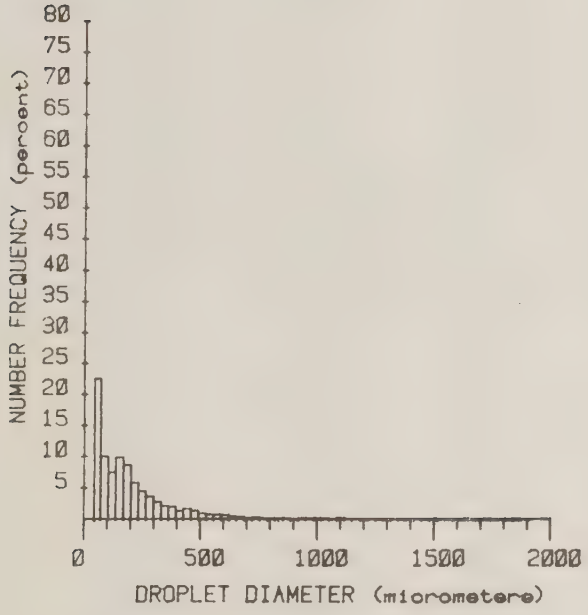
$D_{N0.5}$... 151.11 MICROMETERS $D_{V0.5}$...1169.16 MICROMETERS R.S.... 1.05

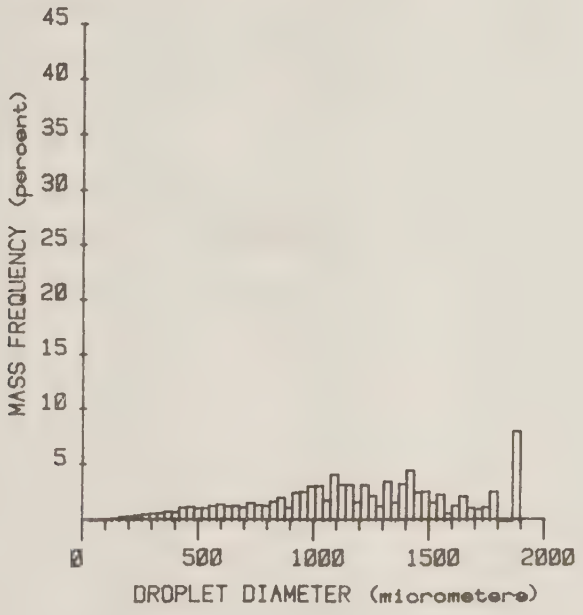
$D_{N0.9}$... 565.68 MICROMETERS $D_{V0.9}$...1776.57 MICROMETERS

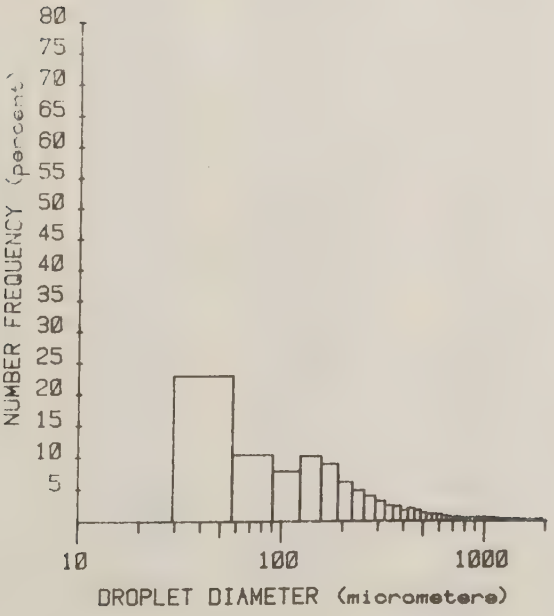
Nozzle Type..... *RD-10*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

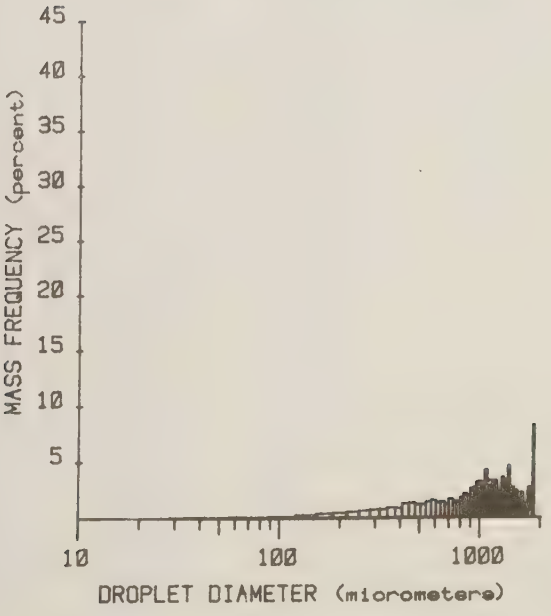
Distance to Probe... *38 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/14*
Time..... *10:05:00*
File Number..... *11.0.52*











RD-10,45 Degrees,50 mph,Esteron 99

DTG 80/09/00 11:41:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	671	2.14E 06	0.07	37.64	0.05	37.64	0.05
89	1327	526786	0.10	9.26	0.07	46.90	0.11
122	1495	488612	0.30	8.59	0.19	55.49	0.31
154	1647	590443	0.81	10.38	0.53	65.87	0.84
187	1058	404368	1.05	7.11	0.69	72.98	1.52
219	744	266788	1.17	4.69	0.76	77.67	2.29
252	542	225759	1.54	3.97	1.01	81.64	3.29
284	400	158635	1.59	2.79	1.04	84.42	4.34
316	295	112007	1.61	1.97	1.05	86.39	5.39
351	264	105339	2.06	1.85	1.35	88.24	6.74
382	229	95288	2.43	1.67	1.59	89.92	8.33
414	167	66169	2.18	1.16	1.43	91.08	9.76
447	145	66106	2.75	1.16	1.80	92.24	11.56
479	105	41807	2.17	0.73	1.42	92.98	12.98
512	125	47035	2.99	0.83	1.96	93.81	14.94
545	79	30053	2.31	0.53	1.51	94.33	16.45
578	80	31230	2.88	0.55	1.89	94.88	18.34
611	46	21765	2.39	0.33	1.56	95.27	19.90
644	46	17765	2.29	0.31	1.50	95.53	21.40
677	49	25250	3.80	0.44	2.49	96.02	23.88
710	43	18419	3.21	0.32	2.10	96.35	25.98
743	49	20423	4.09	0.36	2.68	96.70	28.66
776	42	15345	3.51	0.27	2.30	96.97	30.95
809	34	16045	4.17	0.28	2.73	97.25	33.68
842	31	15715	4.62	0.28	3.02	97.53	36.70
875	29	12988	4.29	0.23	2.81	97.76	39.51
908	31	12729	4.71	0.22	3.08	97.98	42.60
941	22	11718	4.83	0.21	3.16	98.19	45.76
973	13	10872	4.98	0.19	3.26	98.38	49.02
1007	27	15270	7.75	0.27	5.07	98.65	54.09
1040	16	8830	4.94	0.16	3.24	98.81	57.33
1073	17	9143	5.53	0.16	3.69	98.97	61.02
1106	13	9462	6.39	0.17	4.18	99.13	65.20
1139	10	4893	3.61	0.09	2.37	99.22	67.57
1172	15	11159	9.00	0.20	5.89	99.42	73.46
1205	12	6972	6.11	0.12	4.00	99.54	77.46
1238	7	4486	4.27	0.08	2.80	99.62	80.25
1271	7	6347	6.55	0.11	4.28	99.73	84.54
1304	3	2727	3.04	0.05	1.99	99.78	86.53
1337	3	4366	5.25	0.08	3.44	99.85	89.97
1370	2	864	1.12	0.02	0.73	99.87	90.70
1403	1	943	1.31	0.02	0.86	99.88	91.56
1436	2	2328	3.48	0.04	2.28	99.93	93.84
1469	1	440	0.70	0.01	0.46	99.93	94.30
1502	1	360	0.62	0.01	0.40	99.94	94.70
1535	0	0	0.00	0.00	0.00	99.94	94.70
1568	0	0	0.00	0.00	0.00	99.94	94.70
1601	0	0	0.00	0.00	0.00	99.94	94.70
1634	0	0	0.00	0.00	0.00	99.94	94.70

RD-10,45 Degrees,50 mph,Esteron 99

DTG 80/09/00 11:41:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	1	3446	8.10	0.06	5.30	100.00	100.00
1700	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		5.69E 06	152.77				

TOTAL RAW PARTICLES.... 9947/11701-- 85.01%

NUMBER MEAN DIAMETER... 169.59 MICROMETERS S.D.... 205.76

VOLUME MEAN DIAMETER... 371.68 MICROMETERS S.D.... 622.04

SAUTER MEAN DIAMETER... 722.15 MICROMETERS

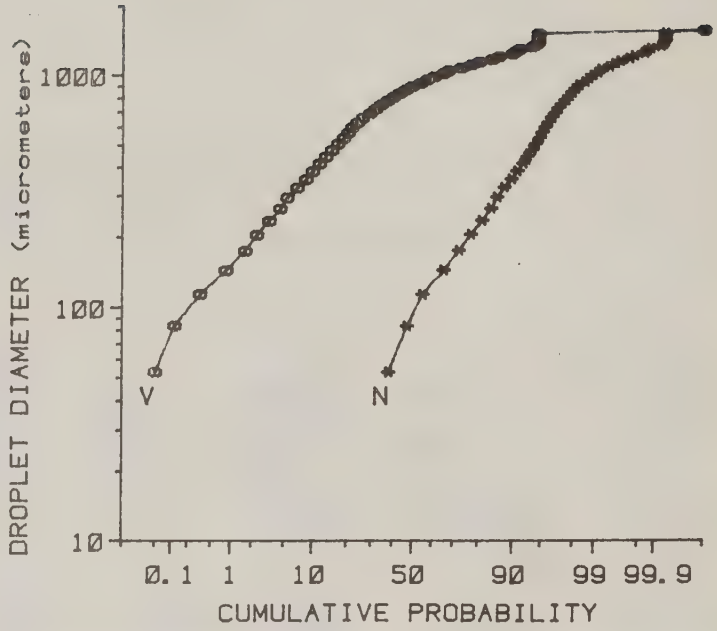
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 418.75 MICROMETERS

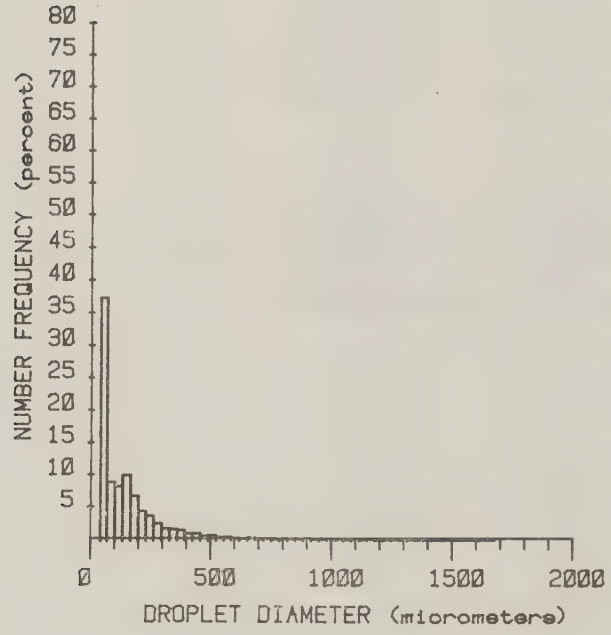
$D_{N0.5}$... 100.83 MICROMETERS $D_{V0.5}$... 979.86 MICROMETERS R.S.... 0.94

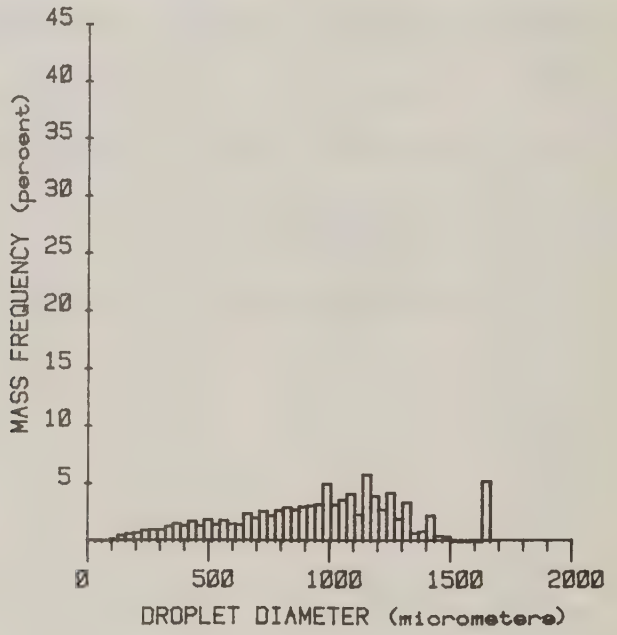
$D_{N0.9}$... 334.25 MICROMETERS $D_{V0.9}$...1333.01 MICROMETERS

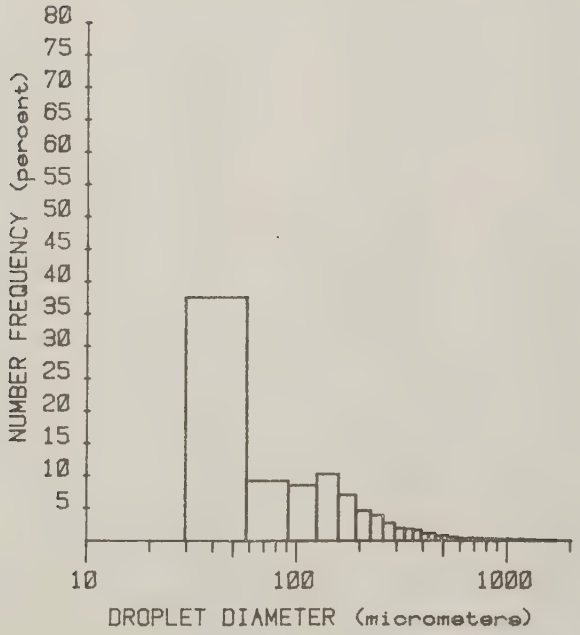
Nozzle Type..... *RD-10*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

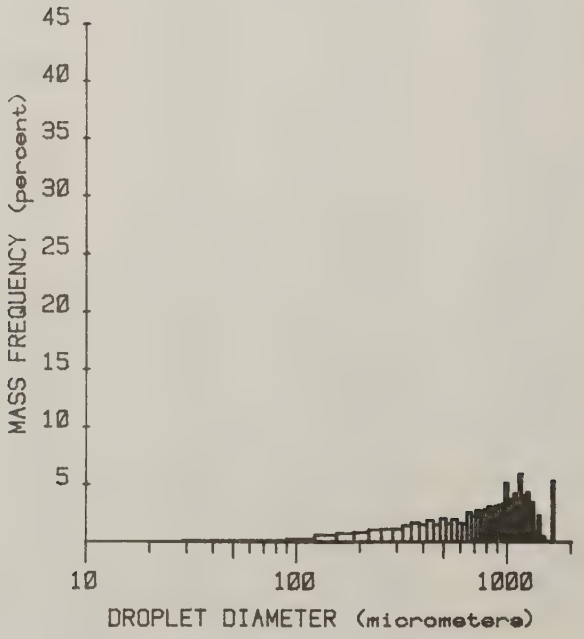
Distance to Probe... *25 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *80/09/00*
Time..... *11:41:00*
File Number..... *11.0.44*











RD-10,90 Degrees,50 mph,Esteron 99

DTG 84/09/05 11:04:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	567	2.71E 06	0.09	37.47	0.06	37.47	0.06
89	1294	797017	0.16	11.01	0.10	48.48	0.16
122	1477	798725	0.49	11.03	0.32	59.51	0.48
154	1334	740984	1.01	10.24	0.67	69.75	1.15
187	869	491373	1.27	6.79	0.84	76.54	1.99
219	562	350930	1.53	4.85	1.01	81.38	3.00
252	366	229064	1.56	3.16	1.03	84.55	4.03
284	284	182729	1.84	2.52	1.21	87.07	5.24
318	205	135405	1.95	1.87	1.28	88.94	6.53
351	162	117788	2.30	1.63	1.52	90.57	8.05
382	122	74638	1.91	1.03	1.26	91.60	9.31
414	124	73954	2.44	1.02	1.61	92.62	10.91
447	99	63181	2.84	0.94	1.87	93.56	12.79
479	79	52335	2.71	0.72	1.79	94.29	14.58
512	83	54465	3.46	0.75	2.23	95.04	16.36
545	50	36781	2.83	0.51	1.37	95.55	18.73
573	51	45269	4.18	0.63	2.76	96.17	21.49
611	49	28651	3.14	0.40	2.07	96.57	23.56
644	38	32017	4.13	0.44	2.72	97.01	26.28
677	34	23398	3.52	0.32	2.32	97.33	28.60
710	28	21837	3.80	0.30	2.51	97.64	31.11
743	27	20049	4.01	0.28	2.65	97.91	33.76
775	13	8009	1.83	0.11	1.21	98.02	34.97
809	16	14033	3.65	0.19	2.41	98.22	37.37
842	16	13883	4.08	0.19	2.69	98.41	40.06
875	21	10592	3.50	0.15	2.31	98.56	42.37
908	11	6622	2.45	0.09	1.62	98.65	43.99
941	13	9364	3.86	0.13	2.55	98.78	46.53
974	13	10149	4.65	0.14	3.07	98.92	49.60
1007	11	7953	4.04	0.11	2.66	99.03	52.27
1040	10	10115	5.66	0.14	3.74	99.17	56.00
1073	10	6338	4.21	0.09	2.78	99.26	58.78
1106	7	6729	4.54	0.09	3.00	99.35	61.78
1139	5	3695	2.73	0.05	1.80	99.40	63.58
1172	8	5872	5.54	0.09	3.65	99.50	67.24
1205	2	935	0.82	0.01	0.54	99.51	67.78
1238	2	2391	2.28	0.03	1.50	99.55	69.28
1271	5	4339	4.47	0.06	2.95	99.61	72.23
1304	3	7003	7.81	0.10	5.15	99.70	77.38
1337	1	3292	3.96	0.05	2.61	99.75	79.99
1370	5	9613	12.45	0.13	8.22	99.88	88.21
1403	0	0	0.00	0.00	0.00	99.88	88.21
1436	0	0	0.00	0.00	0.00	99.88	88.21
1469	2	3269	5.23	0.05	3.45	99.93	91.66
1502	0	0	0.00	0.00	0.00	99.93	91.66
1535	0	0	0.00	0.00	0.00	99.93	91.66
1568	0	0	0.00	0.00	0.00	99.93	91.66
1601	0	0	0.00	0.00	0.00	99.93	91.66
1634	0	0	0.00	0.00	0.00	99.93	91.66

RD-10,90 Degrees,50 mph,Esteron 99

DTG 84/09/05 11:04:00

DFM=1.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	1	5380	12.64	0.07	8.34	100.00	100.00
1700	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		7.24E 06	151.58				

TOTAL RAW PARTICLES.... 8084/10126-- 79.83%

NUMBER MEAN DIAMETER... 153.37 MICROMETERS S.D.... 184.94

VOLUME MEAN DIAMETER... 342.09 MICROMETERS S.D.... 609.89

SAUTER MEAN DIAMETER... 693.53 MICROMETERS

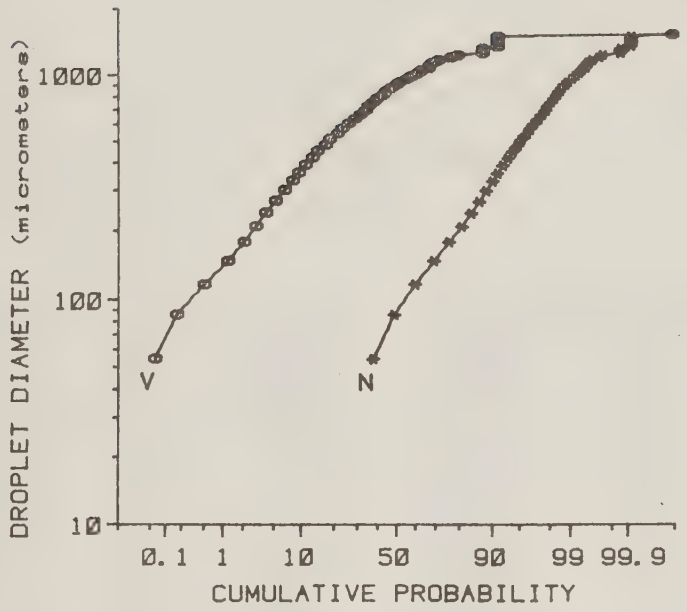
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 396.24 MICROMETERS

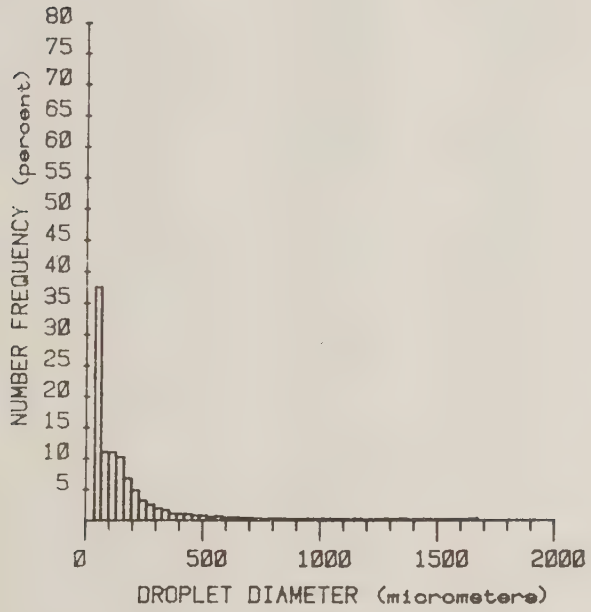
$D_{N0.5}$... 93.48 MICROMETERS $D_{V0.5}$... 978.41 MICROMETERS R.S.... 1.08

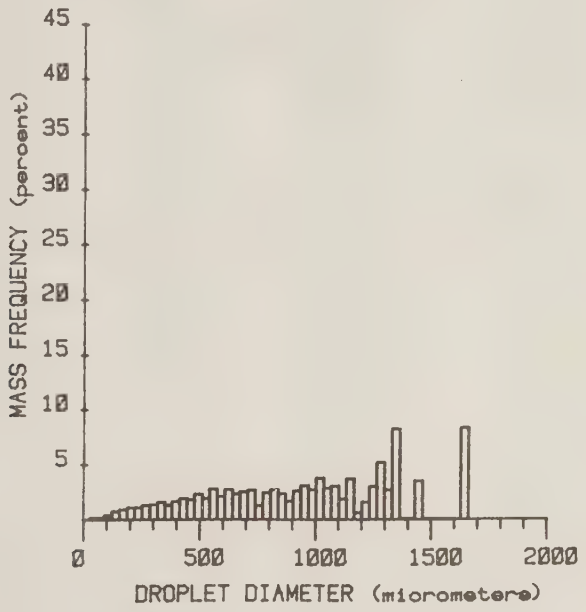
$D_{N0.9}$... 339.72 MICROMETERS $D_{V0.9}$...1452.62 MICROMETERS

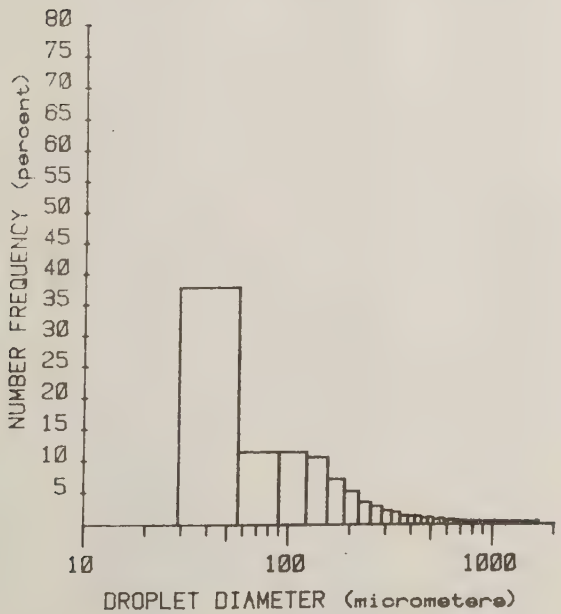
Nozzle Type..... *RD-10*
Nozzle Angle Rel.
to Airstream..... *90°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

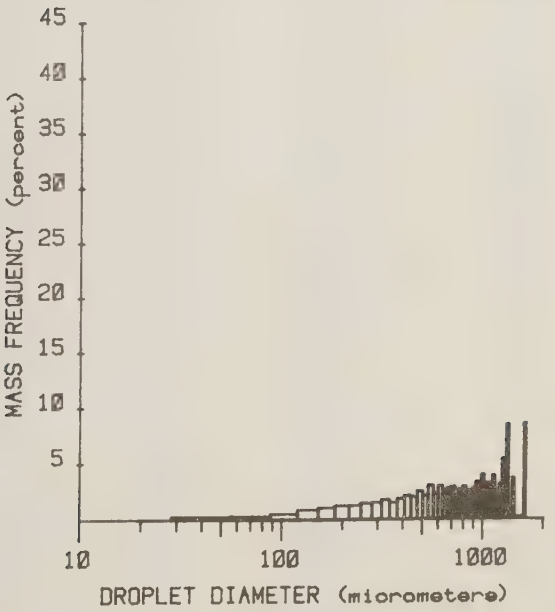
Distance to Probe... *15 cm.*
Depth of Field..... *1.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/05*
Time..... *11:04:00*
File Number..... *11.0.43*











RD-10,0 Degrees,50 mph,Garlon

DTG 84/09/14 10:31:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	175	560663	0.02	25.51	0.01	25.51	0.01
89	755	229576	0.05	10.45	0.03	35.95	0.04
122	1304	171326	0.10	7.79	0.06	43.75	0.10
154	1441	209370	0.29	9.53	0.17	53.28	0.27
187	1117	181415	0.47	8.25	0.28	61.53	0.55
219	734	127787	0.56	5.81	0.33	67.34	0.88
252	473	98052	0.67	4.46	0.40	71.80	1.28
284	329	76463	0.77	3.48	0.46	75.28	1.74
318	283	67936	0.98	3.09	0.58	78.37	2.32
351	230	52790	1.03	2.40	0.62	80.78	2.94
382	183	43977	1.12	2.00	0.67	82.78	3.60
414	180	38083	1.25	1.73	0.75	84.51	4.35
447	146	35130	1.46	1.60	0.87	86.11	5.22
479	111	23196	1.20	1.06	0.72	87.16	5.94
512	119	26760	1.70	1.22	1.01	88.38	6.95
545	113	23357	1.80	1.06	1.07	89.44	8.02
578	83	18556	1.71	0.84	1.02	90.29	9.04
611	70	12704	1.39	0.58	0.83	90.87	9.87
644	78	17427	2.25	0.79	1.34	91.66	11.21
677	60	14396	2.16	0.66	1.29	92.31	12.50
710	51	10320	1.80	0.47	1.07	92.78	13.57
743	42	9440	1.89	0.43	1.13	93.21	14.70
776	42	9746	2.23	0.44	1.33	93.66	16.02
809	38	7764	2.02	0.35	1.20	94.01	17.23
842	35	8199	2.41	0.37	1.43	94.38	18.66
875	28	5893	1.95	0.27	1.16	94.65	19.82
908	40	10638	3.94	0.48	2.34	95.13	22.16
941	22	6716	2.77	0.31	1.65	95.44	23.81
974	27	7311	3.35	0.33	2.00	95.77	25.81
1007	25	6129	3.11	0.28	1.85	96.05	27.66
1040	19	3965	2.22	0.18	1.32	96.23	28.99
1073	27	4938	3.04	0.22	1.81	96.46	30.80
1106	17	5306	3.58	0.24	2.13	96.70	32.93
1139	21	7785	5.75	0.35	3.43	97.05	36.36
1172	18	4969	4.00	0.23	2.39	97.28	38.74
1205	18	5357	4.70	0.24	2.80	97.52	41.54
1238	21	5201	4.95	0.24	2.95	97.76	44.49
1271	16	4069	4.20	0.19	2.50	97.94	46.99
1304	15	3677	4.10	0.17	2.44	98.11	49.43
1337	14	4350	5.23	0.20	3.12	98.31	52.55
1370	7	1921	2.49	0.09	1.48	98.40	54.03
1403	7	2770	3.86	0.13	2.30	98.52	56.33
1436	10	4337	6.48	0.20	3.86	98.72	60.19
1469	4	1125	1.80	0.05	1.07	98.77	61.26
1502	3	2052	3.51	0.09	2.09	98.86	63.35
1535	5	3896	7.13	0.18	4.25	99.04	67.60
1568	4	2484	4.85	0.11	2.89	99.15	70.49
1601	5	3204	6.66	0.15	3.97	99.30	74.45
1634	7	4590	10.15	0.21	6.05	99.51	80.50

RD-10,0 Degrees,50 mph,Garlon

DTG 84/09/14 10:31:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	5	2512	5.90	0.11	3.52	99.62	84.02
1700	1	431	1.07	0.02	0.64	99.64	84.66
1733	3	1830	4.84	0.08	2.88	99.73	87.54
1766	0	0	0.00	0.00	0.00	99.73	87.54
1799	2	502	1.49	0.02	0.89	99.75	88.42
1832	2	1149	3.59	0.05	2.14	99.80	90.56
1865	0	0	0.00	0.00	0.00	99.80	90.56
1898	1	2589	9.01	0.12	5.37	99.92	95.93
1931	0	0	0.00	0.00	0.00	99.92	95.93
1964	1	1770	6.83	0.08	4.07	100.00	100.00
1997	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.20E 06	167.88				

TOTAL RAW PARTICLES.... 8587/ 9861-- 87.08%

NUMBER MEAN DIAMETER... 241.21 MICROMETERS S.D.... 296.06

VOLUME MEAN DIAMETER... 526.62 MICROMETERS S.D.... 347.70

CENTER MEAN DIAMETER...1001.46 MICROMETERS

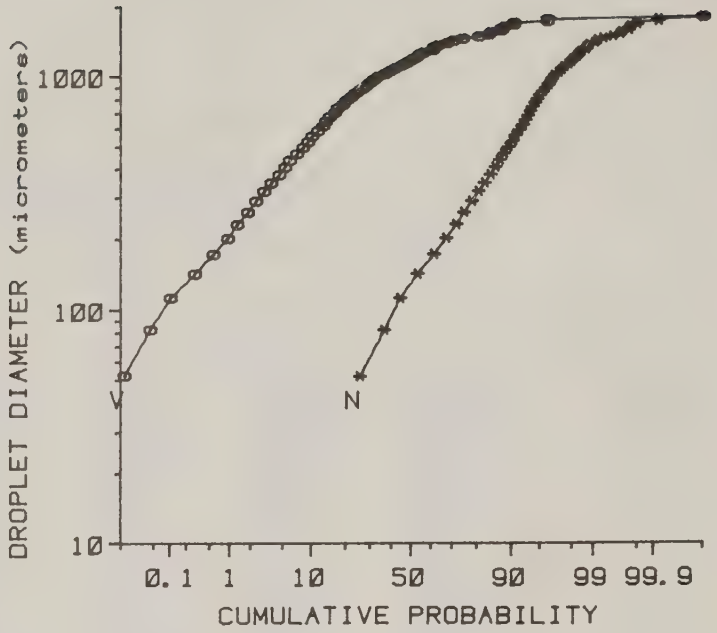
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 613.61 MICROMETERS

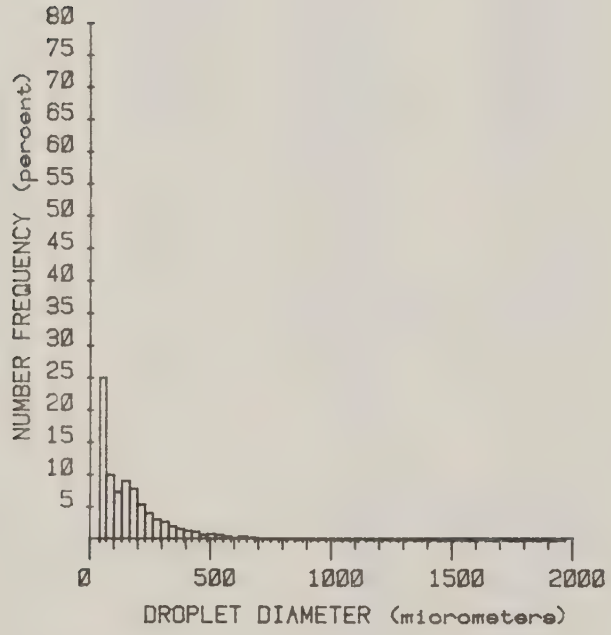
$D_{N0.5}$... 143.26 MICROMETERS $D_{V0.5}$...1309.52 MICROMETERS R.S.... 0.92

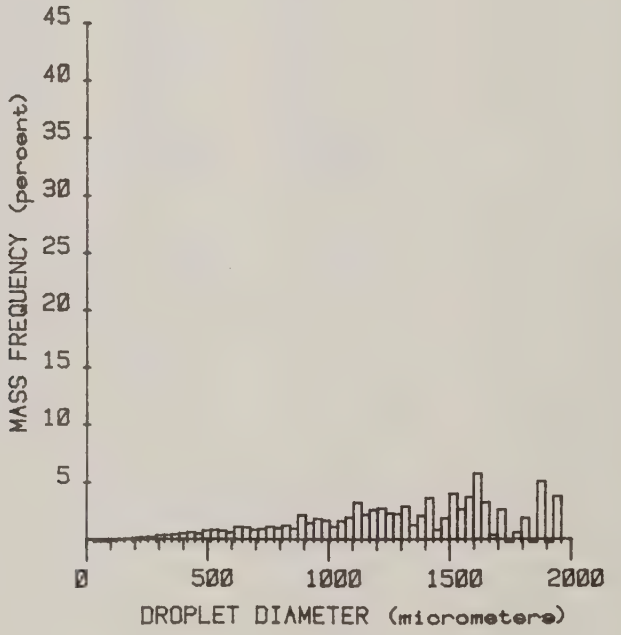
$D_{N0.9}$... 566.25 MICROMETERS $D_{V0.9}$...1322.31 MICROMETERS

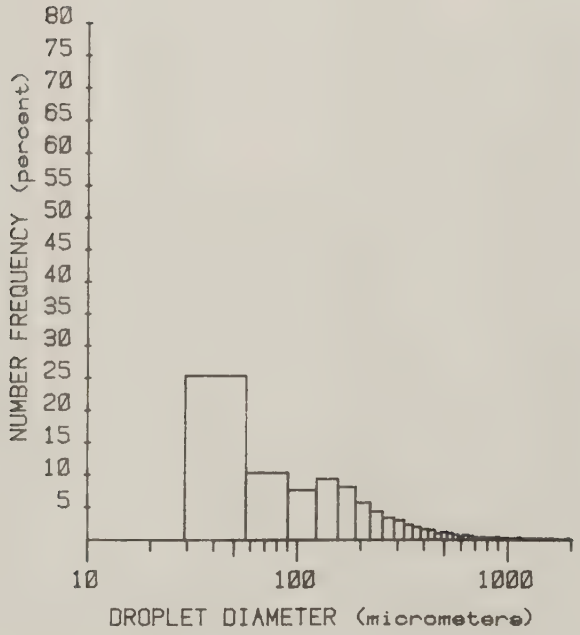
Nozzle Type..... *RD-10*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

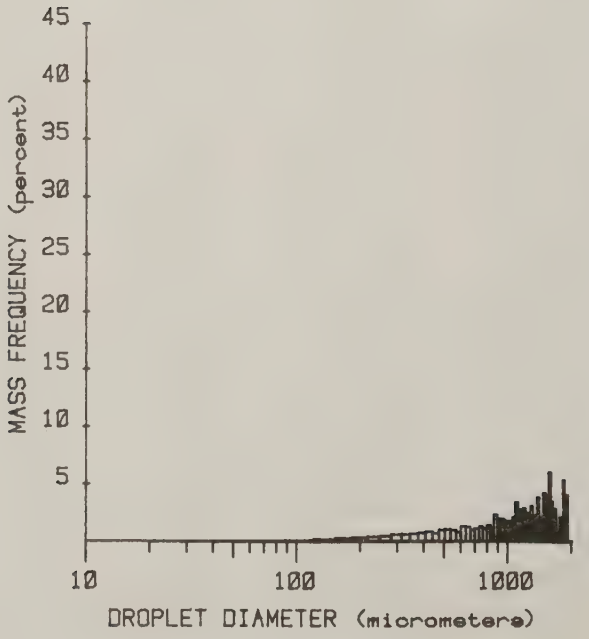
Distance to Probe... *38 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/14*
Time..... *10:31:00*
File Number..... *11.0.51*











RD-10,45 Degrees,50 mph,Garlon

DTG 84/09/17 08:48:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	qm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	290	800484	0.03	24.79	0.02	24.79	0.02
89	1031	357870	0.07	11.08	0.06	35.87	0.09
122	1783	268270	0.16	8.31	0.15	44.17	0.24
154	2137	392878	0.54	12.16	0.49	56.34	0.72
187	1680	319216	0.83	9.88	0.75	66.22	1.47
219	1081	218032	0.95	6.75	0.86	72.97	2.34
252	812	163651	1.11	5.07	1.01	78.04	3.35
284	560	111305	1.12	3.45	1.01	81.49	4.36
318	462	88043	1.27	2.73	1.15	84.21	5.51
351	339	67966	1.33	2.10	1.21	86.32	6.71
382	270	51828	1.32	1.60	1.20	87.92	7.91
414	233	45130	1.49	1.40	1.35	89.32	9.26
447	222	42813	1.78	1.33	1.62	90.65	10.88
479	170	30641	1.59	0.95	1.44	91.59	12.32
512	164	32455	2.06	1.00	1.87	92.60	14.19
545	112	20991	1.62	0.65	1.47	93.25	15.65
578	101	22851	2.11	0.71	1.91	93.96	17.57
611	96	18626	2.04	0.58	1.85	94.53	19.42
644	92	16702	2.15	0.52	1.95	95.05	21.37
677	74	14635	2.20	0.45	2.00	95.50	23.37
710	66	13830	2.41	0.43	2.18	95.93	25.55
743	61	14648	2.93	0.45	2.66	96.39	28.21
776	49	8408	1.92	0.26	1.74	96.65	29.95
809	55	11320	2.94	0.35	2.67	97.00	32.62
842	37	7535	2.21	0.23	2.01	97.23	34.62
875	44	9581	3.16	0.30	2.87	97.53	37.49
908	27	4654	1.72	0.14	1.56	97.67	39.05
941	32	6733	2.78	0.21	2.52	97.88	41.57
974	34	7150	3.28	0.22	2.97	98.10	44.54
1007	32	8269	4.20	0.26	3.80	98.36	48.35
1040	26	6021	3.37	0.19	3.06	98.54	51.40
1073	21	6640	4.09	0.21	3.71	98.75	55.11
1106	11	2063	1.39	0.06	1.26	98.81	56.37
1139	16	2640	1.95	0.08	1.77	98.89	58.14
1172	11	3500	2.82	0.11	2.56	99.00	60.70
1205	16	5022	4.40	0.16	3.99	99.16	64.69
1238	5	740	0.70	0.02	0.64	99.18	65.33
1271	11	4091	4.22	0.13	3.83	99.31	69.16
1304	3	637	0.71	0.02	0.64	99.33	69.80
1337	13	4112	4.95	0.13	4.48	99.45	74.28
1370	6	4344	5.63	0.13	5.10	99.59	79.38
1403	5	2566	3.57	0.08	3.24	99.67	82.62
1436	2	1473	2.20	0.05	1.99	99.71	84.62
1469	2	750	1.20	0.02	1.09	99.74	85.71
1502	4	2783	4.77	0.09	4.32	99.82	90.03
1535	3	1944	3.56	0.06	3.22	99.88	93.25
1568	3	3090	6.03	0.10	5.47	99.98	98.72
1601	1	679	1.41	0.02	1.28	100.00	100.00
1634	0	0	0.00	0.00	0.00	100.00	100.00

RD-10,45 Degrees,50 mph,Garlon

DTG 84/09/17 08:48:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
TOTALS		3.23E 06	110.30				

TOTAL RAW PARTICLES.... 12305/14650-- 83.99%

NUMBER MEAN DIAMETER... 197.75 MICROMETERS S.D.... 218.38

VOLUME MEAN DIAMETER... 402.70 MICROMETERS S.D.... 668.27

SAUTER MEAN DIAMETER... 752.38 MICROMETERS

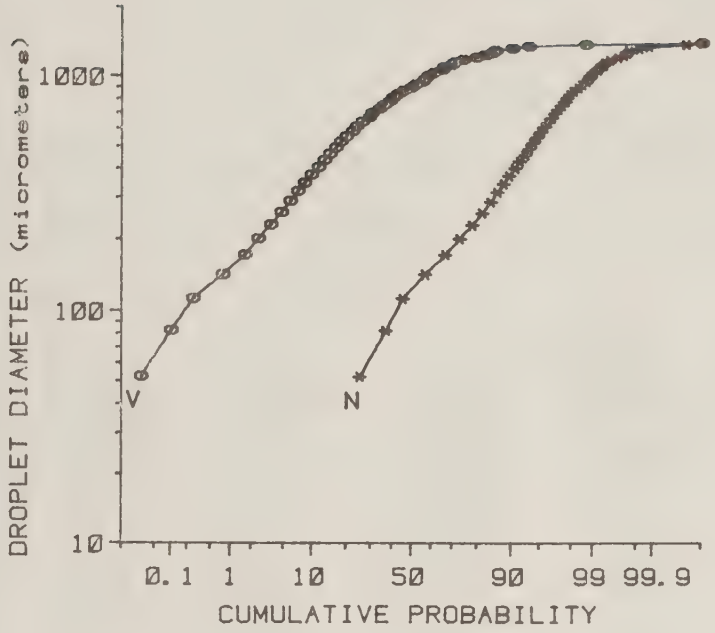
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 429.39 MICROMETERS

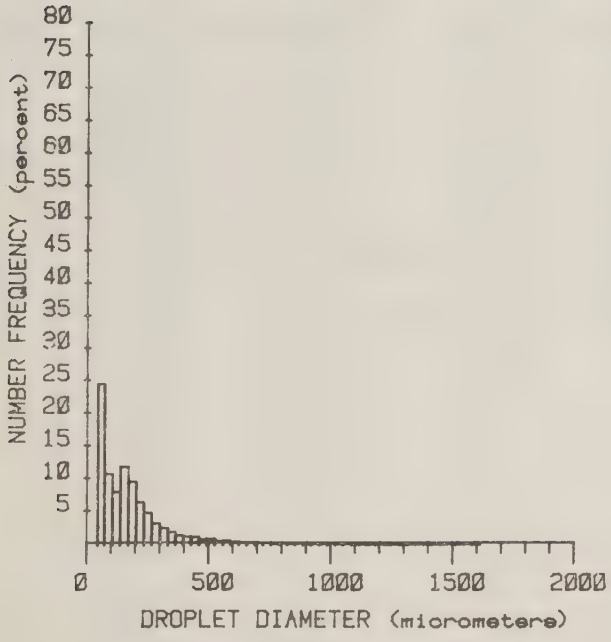
$D_{N0.5}$... 137.41 MICROMETERS $D_{V0.5}$...1024.36 MICROMETERS R.S.... 1.05

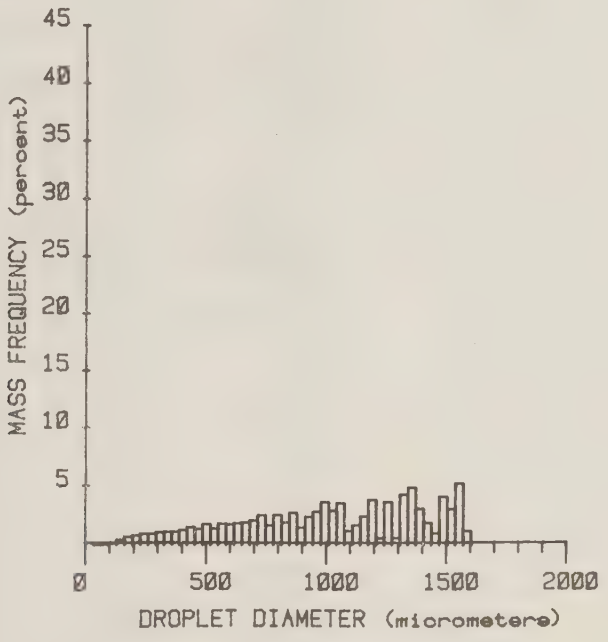
$D_{N0.9}$... 431.26 MICROMETERS $D_{V0.9}$...1501.28 MICROMETERS

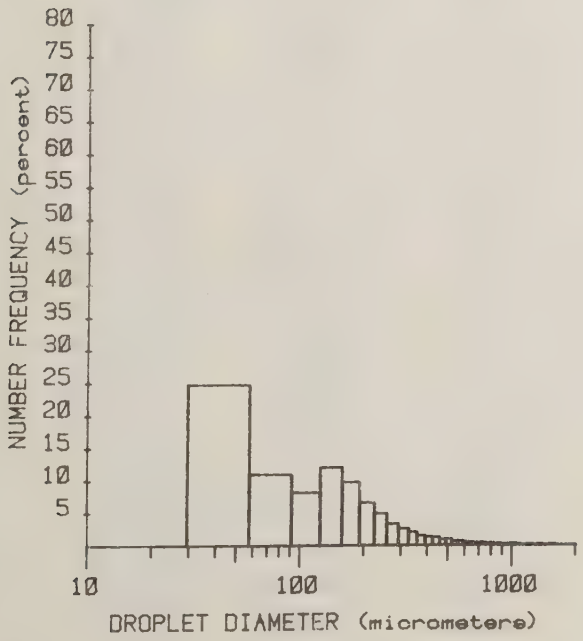
Nozzle Type..... *RD-10*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

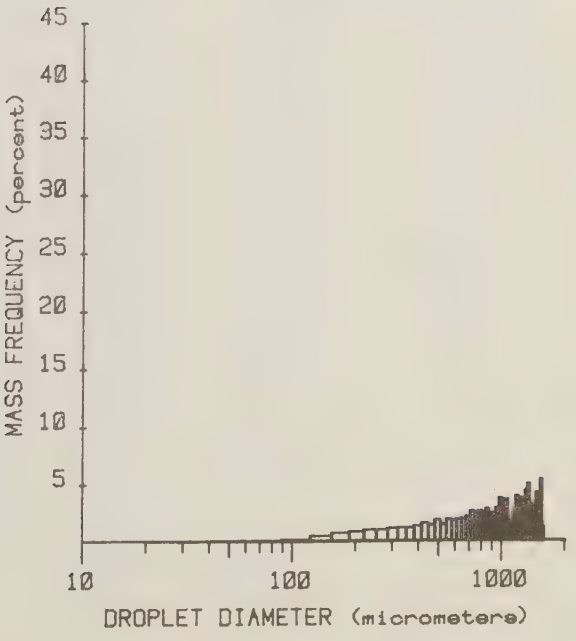
Distance to Probe... *20 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/17*
Time..... *08:48:00*
File Number..... *11.0.56*











RD-10,90 Degrees,50 mph,Garlon

DTG 84/09/17 15:43:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	427	1.21E 06	0.04	34.29	0.04	34.29	0.04
89	920	412732	0.08	11.69	0.08	45.99	0.12
122	1389	260884	0.16	7.39	0.16	53.38	0.28
154	1628	324810	0.44	9.20	0.45	62.58	0.73
187	1334	264906	0.69	7.51	0.69	70.09	1.42
219	947	200179	0.88	5.67	0.88	75.76	2.30
252	614	145177	0.99	4.11	0.99	79.88	3.29
284	474	105371	1.06	2.99	1.06	82.86	4.35
318	349	81629	1.17	2.31	1.18	85.17	5.53
351	256	64254	1.26	1.82	1.26	87.00	6.79
382	239	56312	1.44	1.60	1.44	88.59	8.24
414	163	40277	1.33	1.14	1.33	89.73	9.57
447	144	35311	1.47	1.00	1.48	90.73	11.05
479	128	33406	1.73	0.95	1.74	91.68	12.79
512	113	30876	1.96	0.87	1.97	92.55	14.76
545	113	29742	2.29	0.84	2.30	93.40	17.06
578	87	25858	2.39	0.73	2.40	94.13	19.45
611	74	22397	2.46	0.63	2.47	94.76	21.92
644	69	20117	2.59	0.57	2.60	95.33	24.52
677	64	17109	2.57	0.48	2.53	95.82	27.11
710	53	12030	2.09	0.34	2.10	96.16	29.21
743	59	19013	3.81	0.54	3.82	96.70	33.03
776	49	15733	3.60	0.45	3.61	97.14	36.65
809	36	9764	2.54	0.28	2.55	97.42	39.19
842	36	8567	2.52	0.24	2.53	97.66	41.72
875	27	6845	2.26	0.19	2.27	97.86	43.99
908	29	9759	3.61	0.28	3.63	98.13	47.62
941	15	4395	1.31	0.12	1.32	98.26	49.44
974	16	4323	1.98	0.12	1.99	98.38	51.43
1007	21	5378	2.73	0.15	2.74	98.53	54.17
1040	20	6016	3.37	0.17	3.38	98.70	57.55
1073	22	9136	5.63	0.26	5.65	98.96	63.20
1106	21	5795	3.91	0.16	3.93	99.13	67.14
1139	25	7859	5.81	0.22	5.83	99.35	72.97
1172	9	3834	3.09	0.11	3.10	99.46	76.07
1205	10	2690	2.36	0.08	2.37	99.53	78.44
1238	10	3419	3.26	0.10	3.27	99.63	81.71
1271	8	2707	2.79	0.08	2.80	99.71	84.51
1304	6	1720	1.92	0.05	1.93	99.76	86.44
1337	4	1068	1.28	0.03	1.29	99.79	87.73
1370	5	2280	2.95	0.06	2.97	99.85	90.69
1403	0	0	0.00	0.00	0.00	99.85	90.69
1436	4	2168	3.24	0.06	3.25	99.91	93.95
1469	2	1300	2.08	0.04	2.09	99.95	96.04
1502	0	0	0.00	0.00	0.00	99.95	96.04
1535	0	0	0.00	0.00	0.00	99.95	96.04
1568	1	122	0.24	0.00	0.24	99.95	96.28
1601	1	277	0.58	0.01	0.58	99.96	96.85
1634	1	502	1.11	0.01	1.11	99.98	97.97

RD-10,90 Degrees,50 mph,Garlon

DTG 84/09/17 15:43:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	1	861	2.02	0.02	2.03	100.00	100.00
1700	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		3.53E 06	99.58				

TOTAL RAW PARTICLES.... 10028/12308-- 81.48%

NUMBER MEAN DIAMETER... 179.10 MICROMETERS S.D.... 210.03

VOLUME MEAN DIAMETER... 377.85 MICROMETERS S.D.... 620.02

SAUTER MEAN DIAMETER... 708.07 MICROMETERS

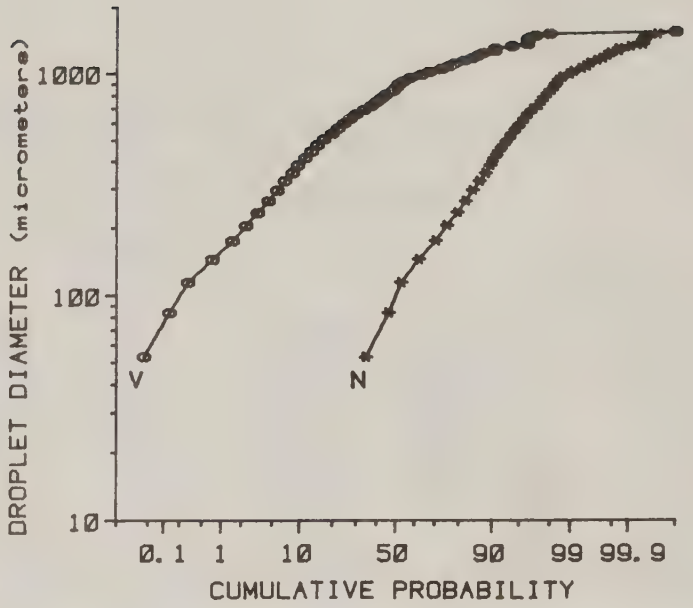
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 423.96 MICROMETERS

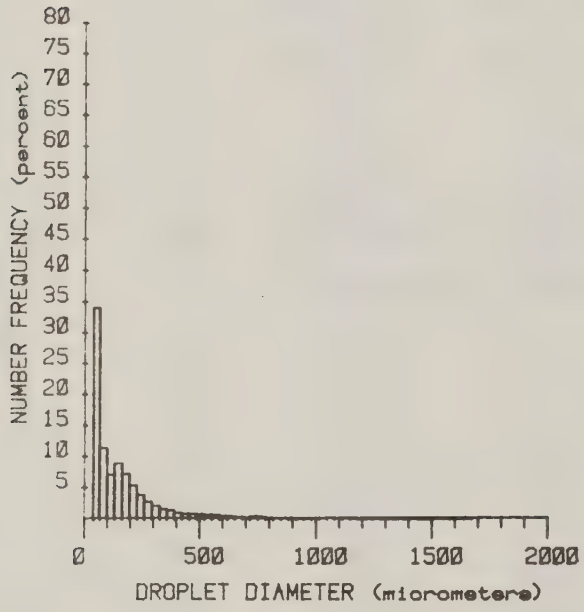
$D_{N0.5}$... 106.84 MICROMETERS $D_{V0.5}$... 949.82 MICROMETERS R.S.... 0.99

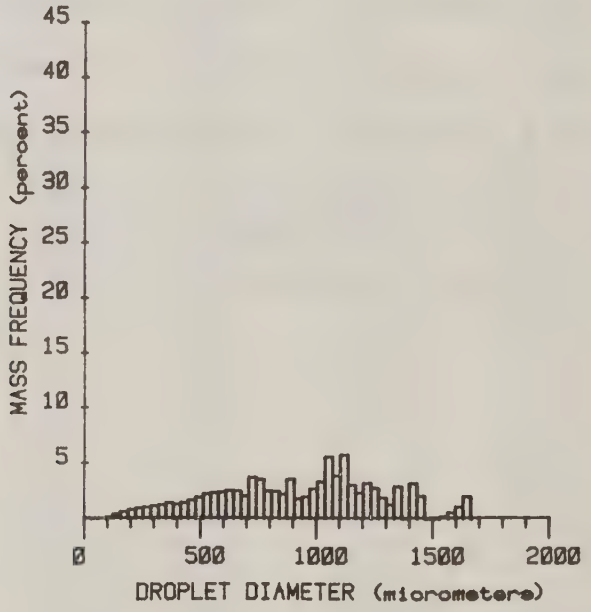
$D_{N0.9}$... 423.16 MICROMETERS $D_{V0.9}$...1361.79 MICROMETERS

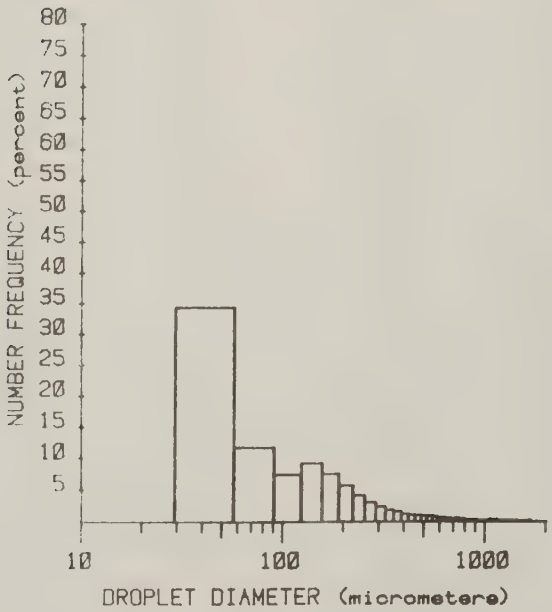
Nozzle Type..... *RD-10*
Nozzle Angle Rel.
to Airstream..... *90°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

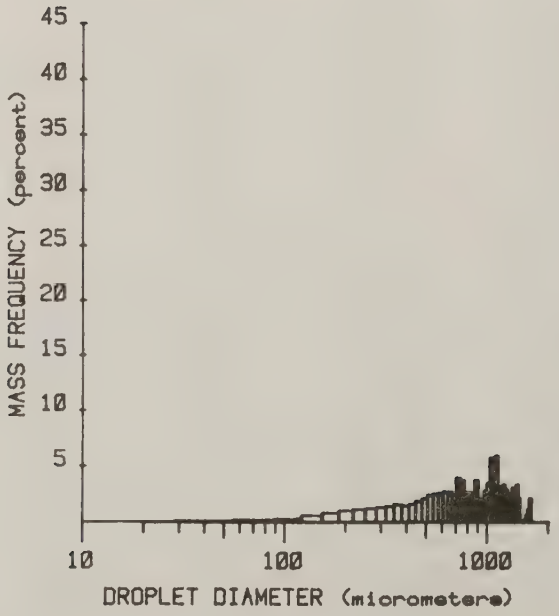
Distance to Probe... *15 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/17*
Time..... *15:43:00*
File Number..... *11.0.60*











RD-10,0 Degrees,50 mph,Roundup

DTG 84/09/24 14:24:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	266	736794	0.02	36.72	0.02	36.72	0.02
89	785	252254	0.05	12.57	0.04	49.29	0.07
122	1208	151011	0.09	7.53	0.08	56.82	0.15
154	1458	182866	0.25	9.11	0.22	65.93	0.37
187	1221	109741	0.28	5.47	0.25	71.40	0.62
219	858	112773	0.49	5.62	0.44	77.02	1.06
252	645	74966	0.51	3.74	0.45	80.75	1.52
284	475	59125	0.59	2.95	0.53	83.70	2.04
318	397	40770	0.59	2.03	0.52	85.73	2.56
351	301	33062	0.65	1.65	0.58	87.38	3.14
382	252	33569	0.86	1.67	0.76	89.05	3.90
414	186	26657	0.88	1.33	0.78	90.38	4.68
447	160	17236	0.72	0.86	0.64	91.24	5.32
479	134	10278	0.53	0.51	0.47	91.75	5.80
512	110	10652	0.68	0.53	0.60	92.28	6.40
545	109	20153	1.55	1.00	1.38	93.29	7.78
578	99	9129	0.84	0.45	0.75	93.74	8.53
611	96	9390	1.03	0.47	0.92	94.21	9.44
644	76	8139	1.05	0.41	0.93	94.62	10.37
677	48	6824	1.03	0.34	0.91	94.96	11.29
710	58	5657	0.98	0.28	0.88	95.24	12.16
743	50	5762	1.15	0.29	1.03	95.52	13.19
776	66	5104	1.17	0.25	1.04	95.78	14.23
809	34	4683	1.22	0.23	1.08	96.01	15.31
842	41	5130	1.51	0.26	1.34	96.27	16.65
875	40	3779	1.25	0.19	1.11	96.46	17.76
908	31	10640	3.94	0.53	3.50	96.99	21.26
941	22	3099	1.28	0.15	1.14	97.14	22.39
974	23	2407	1.10	0.12	0.98	97.26	23.38
1007	21	1120	0.57	0.06	0.51	97.32	23.88
1040	23	3781	2.12	0.19	1.88	97.51	25.76
1073	15	656	0.40	0.03	0.36	97.54	26.12
1106	19	2450	1.66	0.12	1.47	97.66	27.60
1139	16	4296	3.17	0.21	2.82	97.87	30.42
1172	12	1305	1.05	0.07	0.94	97.94	31.35
1205	12	1415	1.24	0.07	1.10	98.01	32.46
1238	18	4249	4.05	0.21	3.60	98.22	36.05
1271	8	1034	1.07	0.05	0.95	98.27	37.00
1304	9	3099	3.46	0.15	3.07	98.43	40.07
1337	9	899	1.08	0.04	0.96	98.47	41.04
1370	12	1895	2.46	0.09	2.18	98.57	43.22
1403	4	2253	3.14	0.11	2.79	98.68	46.01
1436	8	981	1.47	0.05	1.30	98.73	47.31
1469	10	3104	4.97	0.15	4.42	98.88	51.73
1502	4	944	1.62	0.05	1.44	98.93	53.17
1535	6	2098	3.84	0.10	3.41	99.03	56.58
1568	3	1063	2.07	0.05	1.84	99.09	58.42
1601	5	584	1.21	0.03	1.08	99.12	59.50
1634	7	6145	13.59	0.31	12.08	99.42	71.59

RD-10,0 Degrees,50 mph,Roundup

DTG 84/09/24 14:24:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	qm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	8	1631	3.83	0.08	3.41	99.50	75.00
1700	4	3329	8.30	0.17	7.38	99.67	82.38
1733	6	3361	8.88	0.17	7.90	99.84	90.28
1766	2	88	0.25	0.00	0.22	99.84	90.50
1799	1	78	0.23	0.00	0.20	99.85	90.70
1832	1	55	0.17	0.00	0.15	99.85	90.85
1865	2	2628	8.68	0.13	7.71	99.98	98.57
1898	2	248	0.86	0.01	0.77	99.99	99.34
1931	0	0	0.00	0.00	0.00	99.99	99.34
1964	0	0	0.00	0.00	0.00	99.99	99.34
1997	0	0	0.00	0.00	0.00	99.99	99.34
2030	1	175	0.75	0.01	0.66	100.00	100.00
2063	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.01E 06	112.46				

TOTAL RAW PARTICLES.... 9497/10759-- 88.27%

NUMBER MEAN DIAMETER... 185.87 MICROMETERS S.D.... 262.89

VOLUME MEAN DIAMETER... 474.98 MICROMETERS S.D.... 822.59

SAUTER MEAN DIAMETER...1033.74 MICROMETERS

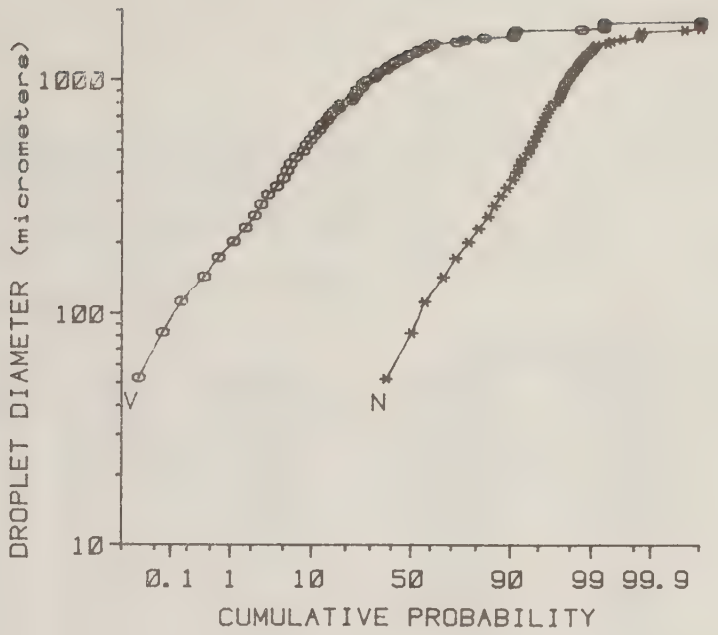
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 630.25 MICROMETERS

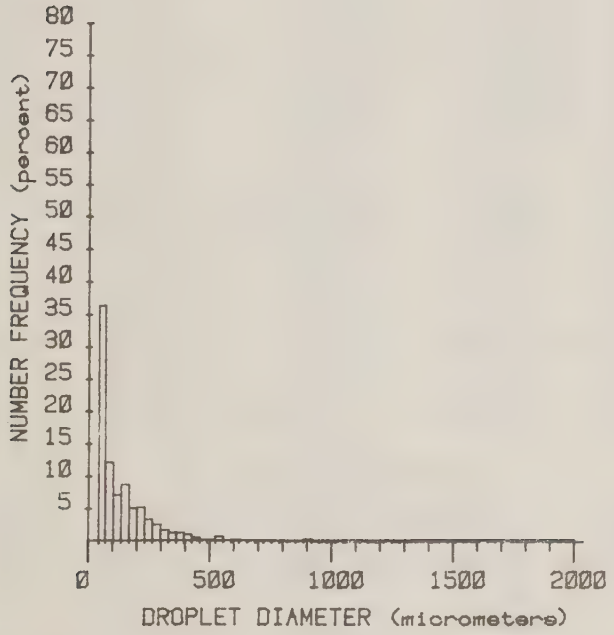
$D_{N0.5}$... 92.05 MICROMETERS $D_{V0.5}$...1455.57 MICROMETERS R.S.... 0.76

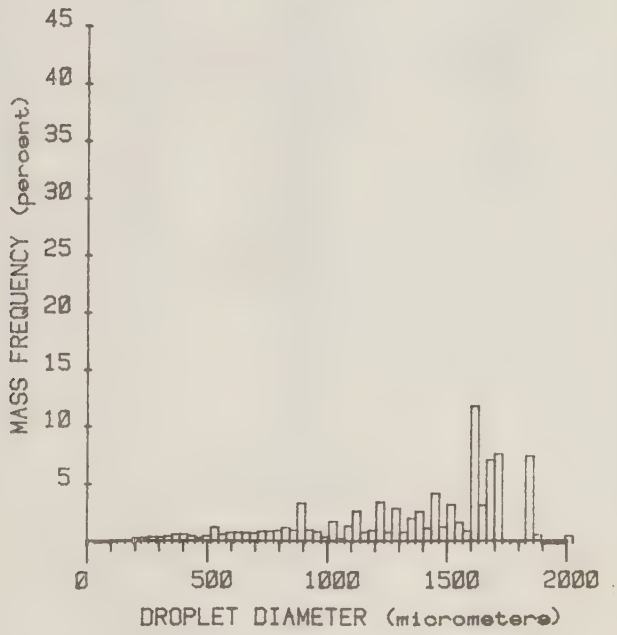
$D_{N0.9}$... 405.52 MICROMETERS $D_{V0.9}$...1731.34 MICROMETERS

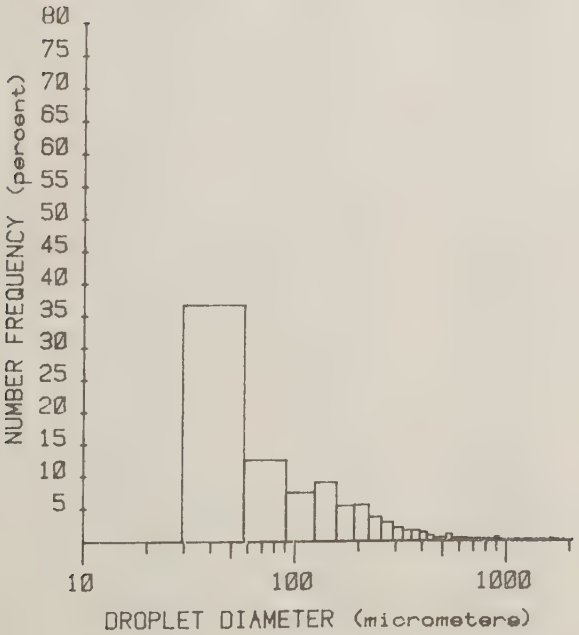
Nozzle Type..... *RD-10*
Nozzle Angle Rel.
to Airstream..... *0°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

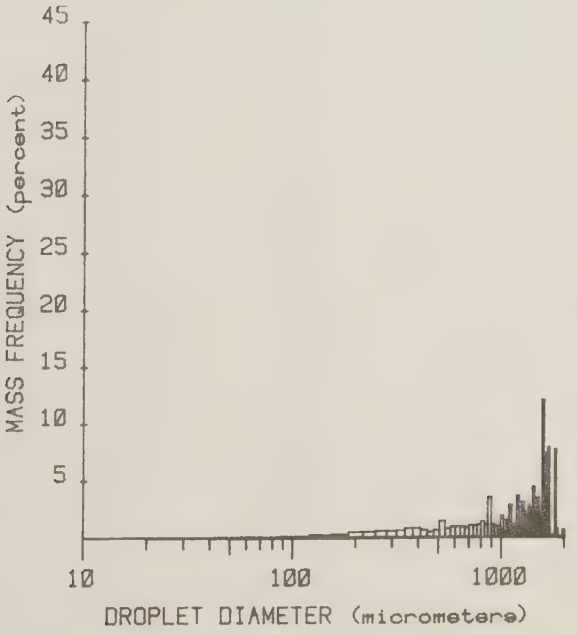
Distance to Probe... *38 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/24*
Time..... *14:24:00*
File Number..... *11.0.70*











RD-10,45 Degrees,50 mph,Roundup

DTG 84/09/18 14:10:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	365	1.45E 06	0.05	48.60	0.05	48.60	0.05
89	813	363293	0.07	12.16	0.07	60.76	0.12
122	1178	207220	0.13	6.94	0.13	67.69	0.24
154	1204	214581	0.29	7.18	0.29	74.88	0.54
187	947	161934	0.42	5.42	0.42	80.30	0.95
219	517	108588	0.47	3.63	0.47	83.93	1.42
252	477	77534	0.53	2.59	0.52	86.53	1.95
284	322	54187	0.54	1.81	0.54	88.34	2.49
318	301	53269	0.77	1.78	0.76	90.12	3.25
351	202	36028	0.70	1.21	0.70	91.33	3.95
382	168	27008	0.69	0.90	0.69	92.23	4.64
414	147	23496	0.77	0.79	0.77	93.02	5.40
447	118	19646	0.82	0.66	0.81	93.68	6.22
479	102	15292	0.79	0.51	0.79	94.19	7.01
512	77	14589	0.93	0.49	0.92	94.68	7.93
545	68	13197	1.02	0.44	1.01	95.12	8.94
578	84	14928	1.38	0.50	1.37	95.62	10.31
611	66	12506	1.37	0.42	1.36	96.04	11.67
644	52	9239	1.19	0.31	1.18	96.34	12.85
677	43	7813	1.17	0.26	1.17	96.61	14.02
710	39	6673	1.16	0.22	1.15	96.83	15.17
743	42	6514	1.30	0.22	1.30	97.05	16.47
776	25	5862	1.34	0.20	1.33	97.24	17.80
809	38	6796	1.77	0.23	1.75	97.47	19.55
842	28	5141	1.51	0.17	1.50	97.64	21.06
875	22	4929	1.63	0.16	1.62	97.81	22.67
908	23	4709	1.74	0.15	1.73	97.97	24.40
941	23	4459	1.84	0.15	1.83	98.11	26.23
974	24	4739	2.20	0.16	2.18	98.28	28.41
1007	15	3089	1.57	0.10	1.56	98.38	29.97
1040	15	3976	2.23	0.13	2.21	98.51	32.18
1073	7	1514	0.93	0.05	0.93	98.56	33.11
1106	12	2483	1.68	0.08	1.67	98.65	34.78
1139	12	3511	2.59	0.12	2.58	98.76	37.35
1172	14	4047	3.26	0.14	3.24	98.90	40.59
1205	6	1035	0.91	0.03	0.90	98.93	41.50
1238	11	4115	3.92	0.14	3.89	99.07	45.39
1271	2	254	0.26	0.01	0.26	99.08	45.65
1304	5	1116	1.24	0.04	1.24	99.12	46.88
1337	5	3346	4.03	0.11	4.00	99.23	50.88
1370	10	3819	4.95	0.13	4.92	99.36	55.80
1403	5	886	1.23	0.03	1.23	99.39	57.03
1436	6	1527	2.28	0.05	2.27	99.44	59.29
1469	4	1267	2.03	0.04	2.02	99.48	61.31
1502	3	1089	1.87	0.04	1.85	99.52	63.16
1535	3	1725	3.16	0.06	3.14	99.57	66.30
1568	5	1689	3.30	0.06	3.27	99.63	69.57
1601	2	530	1.10	0.02	1.10	99.65	70.67
1634	2	921	2.04	0.03	2.02	99.68	72.69

RD-10,45 Degrees,50 mph,Roundup

DTG 84/09/18 14:10:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	3	793	1.86	0.03	1.85	99.71	74.54
1700	0	0	0.00	0.00	0.00	99.71	74.54
1733	3	1943	5.13	0.07	5.10	99.77	79.64
1766	2	3936	11.01	0.13	10.94	99.90	90.59
1799	1	395	1.17	0.01	1.16	99.92	91.75
1832	2	1824	5.70	0.06	5.67	99.98	97.41
1865	0	0	0.00	0.00	0.00	99.98	97.41
1898	0	0	0.00	0.00	0.00	99.98	97.41
1931	1	710	2.60	0.02	2.59	100.00	100.00
1964	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		2.99E 06	100.64				

TOTAL RAW PARTICLES.... 7797/ 9167-- 85.05%

NUMBER MEAN DIAMETER... 144.29 MICROMETERS S.D.... 217.46

VOLUME MEAN DIAMETER... 400.84 MICROMETERS S.D.... 743.43

SAUTER MEAN DIAMETER... 945.64 MICROMETERS

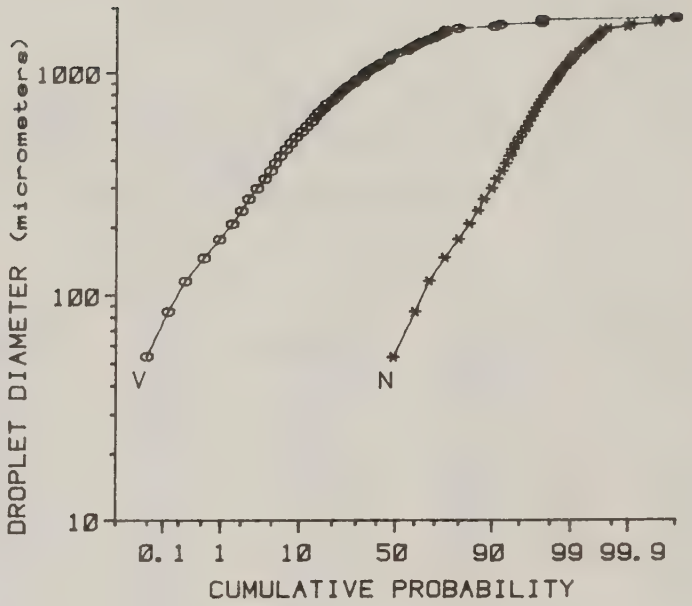
$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 570.11 MICROMETERS

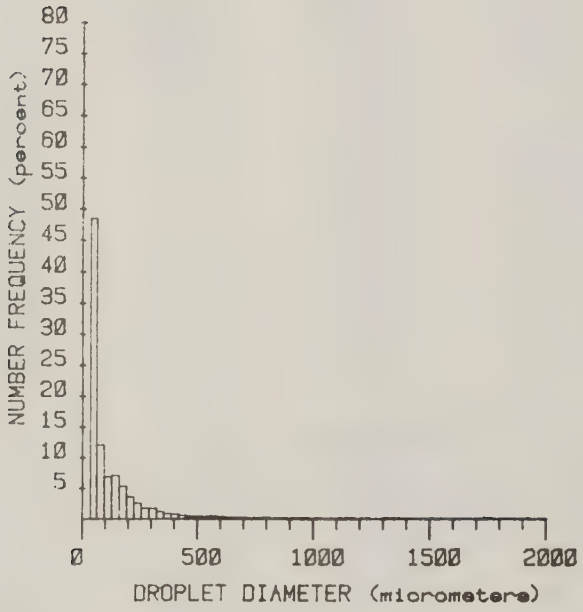
$D_{N0.5}$... 60.06 MICROMETERS $D_{V0.5}$...1329.21 MICROMETERS R.S.... 0.90

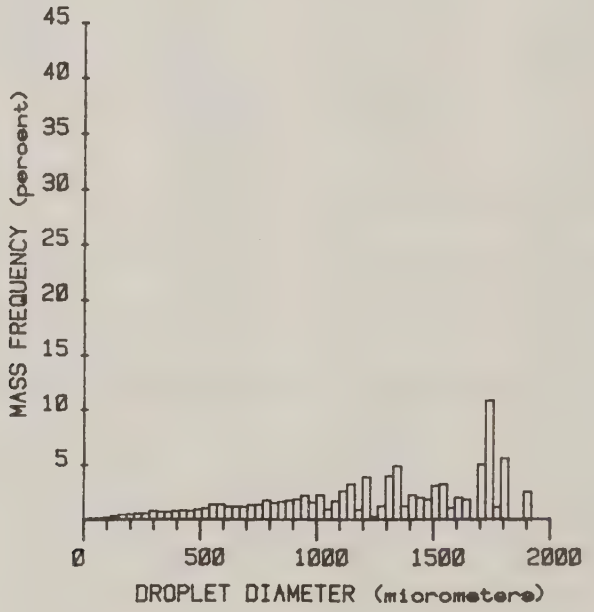
$D_{N0.9}$... 315.04 MICROMETERS $D_{V0.9}$...1763.73 MICROMETERS

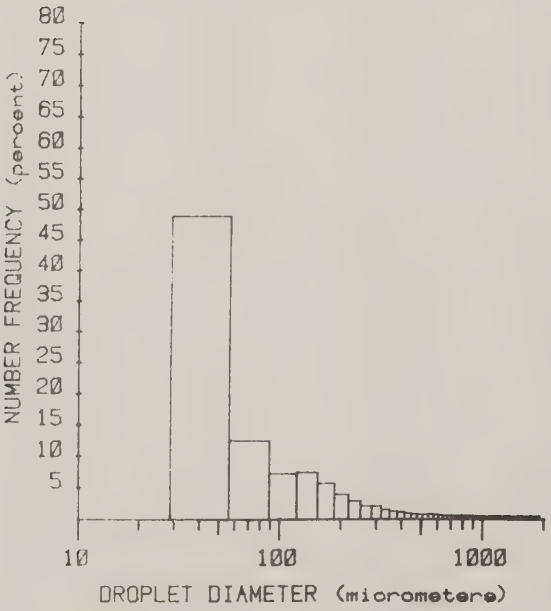
Nozzle Type..... *RD-10*
Nozzle Angle Rel.
to Airstream..... *45°*
Spray Pressure..... *30 PSI*
Airspeed..... *50 MPH*

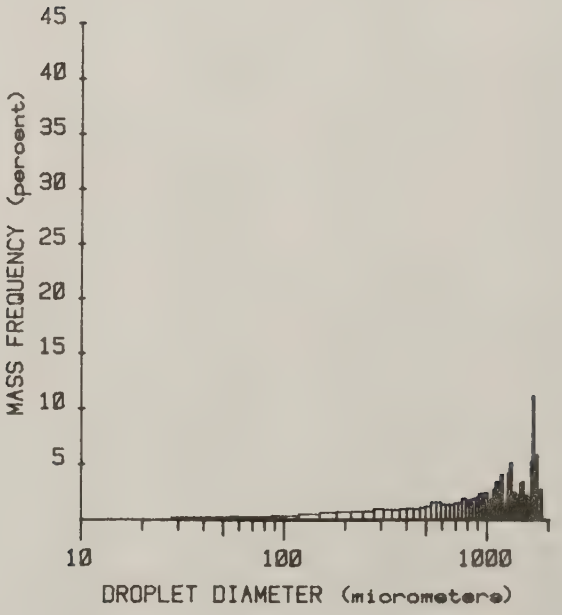
Distance to Probe... *20 cm.*
Depth of Field..... *2.0 cm.*
Slice Rate..... *1.5 MHz*
Date..... *84/09/18*
Time..... *14:10:00*
File Number..... *11.0.66*











RD-10,90 Degrees,50 mph,Roundup

DTG 80/09/08 09:24:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	qm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
56	463	2.28E 06	0.08	51.30	0.07	51.30	0.07
89	794	539822	0.11	12.14	0.10	63.43	0.17
122	1043	297559	0.18	6.69	0.17	70.12	0.34
154	1001	296251	0.41	6.66	0.38	76.78	0.72
187	802	236247	0.61	5.31	0.57	82.09	1.30
219	553	157381	0.69	3.54	0.65	85.63	1.94
252	394	102399	0.70	2.30	0.66	87.93	2.60
284	317	79844	0.80	1.79	0.75	89.73	3.35
318	205	55086	0.79	1.24	0.74	90.96	4.09
351	189	53551	1.05	1.20	0.98	92.17	5.08
382	153	39071	1.00	0.88	0.94	93.05	6.02
414	123	30439	1.00	0.68	0.94	93.73	6.96
447	88	25919	1.08	0.58	1.01	94.31	7.97
479	30	20743	1.08	0.47	1.01	94.78	8.98
512	76	17772	1.13	0.40	1.06	95.18	10.04
545	74	13146	1.40	0.41	1.31	95.59	11.35
578	57	14211	1.31	0.32	1.23	95.91	12.59
611	54	16099	1.76	0.36	1.66	96.27	14.24
644	51	14451	1.86	0.32	1.75	96.59	15.99
677	46	16691	2.51	0.38	2.36	96.97	18.35
710	30	8992	1.57	0.20	1.47	97.17	19.82
743	28	7538	1.51	0.17	1.42	97.34	21.24
776	32	8219	1.88	0.18	1.77	97.53	23.00
809	35	10261	2.67	0.23	2.50	97.76	25.51
842	22	7107	2.09	0.16	1.96	97.92	27.47
875	22	5413	1.79	0.12	1.68	98.04	29.15
908	17	8167	3.02	0.18	2.84	98.22	31.98
941	19	6839	2.82	0.15	2.65	98.37	34.63
974	17	8317	3.81	0.19	3.58	98.56	38.22
1007	14	7018	3.56	0.16	3.34	98.72	41.56
1040	18	5541	3.10	0.12	2.91	98.84	44.47
1073	14	8293	5.11	0.19	4.80	99.03	49.27
1106	9	3284	2.22	0.07	2.08	99.10	51.35
1139	9	2201	1.63	0.05	1.53	99.15	52.88
1172	8	5100	4.11	0.11	3.86	99.27	56.74
1205	3	2891	2.54	0.06	2.38	99.33	59.12
1238	5	1012	0.96	0.02	0.90	99.36	60.03
1271	10	3544	3.65	0.08	3.43	99.44	63.46
1304	5	2058	2.29	0.05	2.15	99.48	65.61
1337	6	2814	3.38	0.06	3.18	99.55	68.79
1370	3	2542	3.29	0.06	3.09	99.60	71.89
1403	7	6706	9.34	0.15	8.77	99.75	80.66
1436	3	347	0.52	0.01	0.49	99.76	81.14
1469	3	2117	3.39	0.05	3.18	99.81	84.33
1502	3	2787	4.77	0.06	4.48	99.87	88.81
1535	3	1296	2.37	0.03	2.23	99.90	91.04
1568	4	2756	5.38	0.06	5.05	99.96	96.09
1601	0	0	0.00	0.00	0.00	99.96	96.09
1634	1	144	0.32	0.00	0.30	99.97	96.39

RD-10,90 Degrees,50 mph,Roundup

DTG 80/09/08 09:24:00

DFM=2.0--1.5 MHz

UPPER LIMIT	N(RAW)	N/SEC	gm/SEC	% N	% VOL.	ACCUMULATED % N	ACCUMULATED % VOL.
1667	0	0	0.00	0.00	0.00	99.97	96.39
1700	2	1544	3.85	0.03	3.61	100.00	100.00
1733	0	0	0.00	0.00	0.00	100.00	100.00
TOTALS		4.45E 06	106.47				

TOTAL RAW PARTICLES.... 6915/ 8530-- 81.07%

NUMBER MEAN DIAMETER... 133.47 MICROMETERS S.D.... 195.46

VOLUME MEAN DIAMETER... 357.69 MICROMETERS S.D.... 645.35

SAUTER MEAN DIAMETER... 816.94 MICROMETERS

$D_{N0.1}$... 0.00 MICROMETERS $D_{V0.1}$... 511.01 MICROMETERS

$D_{N0.5}$... 0.00 MICROMETERS $D_{V0.5}$...1084.04 MICROMETERS R.S.... 0.93

$D_{N0.9}$... 291.60 MICROMETERS $D_{V0.9}$...1519.14 MICROMETERS

Nozzle Type..... RD-10
Nozzle Angle Rel.
to Airstream..... 90°
Spray Pressure..... 30 PSI
Airspeed..... 50 MPH

Distance to Probe... 15 cm.
Depth of Field..... 2.0 cm.
Slice Rate..... 1.5 MHz
Date..... 80/09/08
Time..... 09:24:00
File Number..... 11.0.63